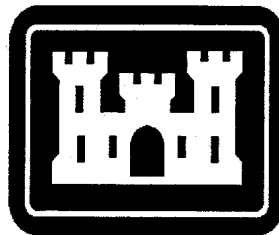


MAJOR MAINTENANCE  
MISSISSIPPI RIVER

SPECIFICATIONS  
FOR

**LOCKS 2 & 5  
STOPLOG SLOT INSTALLATION**

JUNE 2004



**US Army Corps  
of Engineers**  
St. Paul District

MAJOR MAINTENANCE  
STOPLOG SLOT INSTALLATION  
LOCK AND DAM #2 AND #5 - MISSISSIPPI RIVER

00010	SF 1442 and solicitation Contract Form
00100	Bidding Schedule/Instructions to Bidders
00600	Representations & Certifications
00700	Contract Clauses
00800	Special Contract Requirements
00830	Attachments

01000	GENERAL
01140	WORK RESTRICTIONS
01270	MEASUREMENT AND PAYMENT
01312	QUALITY CONTROL SYSTEM (QCS)
01330	SUBMITTAL PROCEDURES
01355	ENVIRONMENTAL PROTECTION
01451	CONTRACTOR QUALITY CONTROL
01500	TEMPORARY CONSTRUCTION FACILITIES
01720	CONTRACTOR SURVEYS
01780	CLOSEOUT SUBMITTALS

02100	CONCRETE WIRE SAWING
02220	STRUCTURAL DEMOLITION
02240	COFFERDAMS
02490	TEMPORARY SUPPORT AND PROTECTION OF MITER GATES DURING CONSTRUCTION

03101	FORMWORK FOR CONCRETE
03151	EXPANSION AND CONSTRUCTION JOINTS IN CONCRETE
03201	STEEL BARS FOR CONCRETE REINFORCEMENT
03300	CAST-IN-PLACE STRUCTURAL CONCRETE

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05055 METALWORK FABRICATION AND MISCELLANEOUS PROVISIONS
05500 MISCELLANEOUS METAL
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09965 PAINTING, HYDRAULIC STRUCTURES AND MACHINERY

<b>SOLICITATION, OFFER, AND AWARD</b> <i>(Construction, Alteration, or Repair)</i>	1. SOLICITATION NO. W912ES-04-R-0007	2. TYPE OF SOLICITATION <input type="checkbox"/> SEALED BID (IFB) <input checked="" type="checkbox"/> NEGOTIATED (RFP)	3. DATE ISSUED 01-Jun-2004	PAGE OF PAGES 1 OF 149
<b>IMPORTANT - The "offer" section on the reverse must be fully completed by offeror.</b>				
4. CONTRACT NO.	5. REQUISITION/PURCHASE REQUEST NO. W81G67-4091-7540		6. PROJECT NO.	
7. ISSUED BY CONTRACTING DIVISION USACE - ST. PAUL 190 5TH STREET E ST. PAUL MN 55101  TEL: 651-290-5419      FAX: 651-290-5706		CODE W912ES	8. ADDRESS OFFER TO <i>(If Other Than Item 7)</i> CODE  <div style="text-align: center; font-weight: bold;">See Item 7</div>	
9. FOR INFORMATION CALL:	A. NAME KEVIN P HENRICKS		B. TELEPHONE NO. <i>(Include area code) (NO COLLECT CALLS)</i> 651-290-5415	
SOLICITATION				
<b>NOTE: In sealed bid solicitations "offer" and "offeror" mean "bid" and "bidder".</b>				
10. THE GOVERNMENT REQUIRES PERFORMANCE OF THE WORK DESCRIBED IN THESE DOCUMENTS <i>(Title, identifying no., date):</i>  Locks 2 and 5 Slot Installation work includes all plant, labor, materials, and equipment to construct new bulkhead recesses at Lock 2 near Hastings, Minnesota and Lock 5 near Winona, Minnesota. The new bulkhead recesses, with bulkheads fabricated under a separate contract, will replace the current Poiree Dam dewatering system for the Locks. Principle work items include, but are not limited to, demolition, recess fabrication and installation (including covers), concrete work, reinforcement, dewatering, and removal and reinstallation of lock wall appurtenances. In addition the downstream recesses will require the removal of the existing anchor bars and anchorages, fabrication of new anchor bars and anchorages, temporary support and protection of the miter gates, miter gate adjustment, and minor electrical alterations. Lead paint and or primers exist on painted surfaces and asbestos may be present in some of the electrical casings. The work is to be completed between December 1, 2004 and March 1, 2005. THIS PROCUREMENT IS ISSUED UNRESTRICTED UNDER THE SMALL BUSINESS COMPETITIVE DEMONSTRATION PROGRAM (PUBLIC LAW 100-656). NORTH AMERICAN INDUSTRY CLASSIFICATION SYSTEM (NAICS) CODE IS 237990 AND SIZE STANDARD OF \$28.5 MILLION AVERAGE ANNUAL GROSS REVENUE.				
11. The Contractor shall begin performance within <u>10</u> calendar days after receiving the notice to proceed and complete the work by 01 March 2005. <input type="checkbox"/> award, <input checked="" type="checkbox"/> notice to proceed. This performance period is <input checked="" type="checkbox"/> mandatory, <input type="checkbox"/> negotiable. <i>(See 52.211-10)</i>				
12 A. THE CONTRACTOR MUST FURNISH ANY REQUIRED PERFORMANCE AND PAYMENT BONDS? <i>(If "YES," indicate within how many calendar days after award in Item 12B.)</i> <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			12B. CALENDAR DAYS  10	
13. ADDITIONAL SOLICITATION REQUIREMENTS:  A. Sealed offers in original and <u>0</u> copies to perform the work required are due at the place specified in Item 8 by 02:00 PM <u>    </u> (hour) local time <u>01 Jul 2004</u> (date). If this is a sealed bid solicitation, offers must be publicly opened at that time. Sealed envelopes containing offers shall be marked to show the offeror's name and address, the solicitation number, and the date and time offers are due.  B. An offer guarantee <input type="checkbox"/> is, <input checked="" type="checkbox"/> is not required.  C. All offers are subject to the (1) work requirements, and (2) other provisions and clauses incorporated in the solicitation in full text or by reference.  D. Offers providing less than <u>60</u> calendar days for Government acceptance after the date offers are due will not be considered and will be rejected.				

<b>SOLICITATION, OFFER, AND AWARD (Continued)</b> <i>(Construction, Alteration, or Repair)</i>										
<b>OFFER (Must be fully completed by offeror)</b>										
14. NAME AND ADDRESS OF OFFEROR <i>(Include ZIP Code)</i>						15. TELEPHONE NO. <i>(Include area code)</i>				
						16. REMITTANCE ADDRESS <i>(Include only if different than Item 14)</i>  <b>See Item 14</b>				
CODE		FACILITY CODE								
17. The offeror agrees to perform the work required at the prices specified below in strict accordance with the terms of this solicitation, if this offer is accepted by the Government in writing within _____ calendar days after the date offers are due. <i>(Insert any number equal to or greater than the minimum requirements stated in Item 13D. Failure to insert any number means the offeror accepts the minimum in Item 13D.)</i>										
AMOUNTS		SEE SCHEDULE OF PRICES								
18. The offeror agrees to furnish any required performance and payment bonds.										
<b>19. ACKNOWLEDGMENT OF AMENDMENTS</b> <i>(The offeror acknowledges receipt of amendments to the solicitation -- give number and date of each)</i>										
AMENDMENT NO.										
DATE										
20A. NAME AND TITLE OF PERSON AUTHORIZED TO SIGN OFFER <i>(Type or print)</i>						20B. SIGNATURE			20C. OFFER DATE	
<b>AWARD (To be completed by Government)</b>										
21. ITEMS ACCEPTED:										
22. AMOUNT		23. ACCOUNTING AND APPROPRIATION DATA								
24. SUBMIT INVOICES TO ADDRESS SHOWN IN <i>(4 copies unless otherwise specified)</i>				<b>ITEM</b>		25. OTHER THAN FULL AND OPEN COMPETITION PURSUANT TO <input type="checkbox"/> 10 U.S.C. 2304(c) <input type="checkbox"/> 41 U.S.C. 253(c)				
26. ADMINISTERED BY			CODE		27. PAYMENT WILL BE MADE BY:      CODE					
<b>CONTRACTING OFFICER WILL COMPLETE ITEM 28 OR 29 AS APPLICABLE</b>										
<input type="checkbox"/> <b>28. NEGOTIATED AGREEMENT</b> <i>(Contractor is required to sign this document and return _____ copies to issuing office.)</i> Contractor agrees to furnish and deliver all items or perform all work, requisitions identified on this form and any continuation sheets for the consideration stated in this contract. The rights and obligations of the parties to this contract shall be governed by (a) this contract award, (b) the solicitation, and (c) the clauses, representations, certifications, and specifications or incorporated by reference in or attached to this contract.						<input type="checkbox"/> <b>29. AWARD</b> <i>(Contractor is not required to sign this document.)</i> Your offer on this solicitation, is hereby accepted as to the items listed. This award consummates the contract, which consists of (a) the Government solicitation and your offer, and (b) this contract award. No further contractual document is necessary.				
30A. NAME AND TITLE OF CONTRACTOR OR PERSON AUTHORIZED TO SIGN <i>(Type or print)</i>						31A. NAME OF CONTRACTING OFFICER <i>(Type or print)</i>				
30B. SIGNATURE			30C. DATE			TEL:		EMAIL:		
						31B. UNITED STATES OF AMERICA BY		31C. AWARD DATE		

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**SECTION 00010 - Solicitation Contract Form***Offer Schedule*

Lock 2

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0001	Upstream Stoplog Recesses Lock 2	1	Lump Sum	_____.	_____.
0002	Downstream Stoplog Recesses Lock 2	1	Lump Sum	_____.	_____.
0003	Cofferdams Lock 2	1	Lump Sum	_____.	_____.
0004	Temporary Support and Protection of Miter Gates During Construction Lock 2	1	Lump Sum	_____.	_____.
0005	Miter Gates Anchorage Assembly Fabrication Lock 2	1	Lump Sum	_____.	_____.
0006	Abatement Work Lock 2	1	Lump Sum	_____.	_____.

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0007	Bonds	1	Lump Sum		
	Performance and Payment Bonds				
	Lock 2			-----.	-----.
Total for Lock 2 (CLINs 0001 through 0007)				-----	

## Lock 5

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0008	Upstream Stoplog Recesses Lock 5	1	Lump Sum	_____.	_____.
0009	Downstream Stoplog Recesses Lock 5	1	Lump Sum	_____.	_____.
0010	Cofferdams Lock 5	1	Lump Sum	_____.	_____.
0011	Temporary Support and Protection of Miter Gates During Construction Lock 5	1	Lump Sum	_____.	_____.
0012	Miter Gates Anchorage Assembly Fabrication Lock 5	1	Lump Sum	_____.	_____.
0013	Abatement Work Lock 5	1	Lump Sum	_____.	_____.
0014	Bonds Performance and Payment Lock 5	1	Lump Sum	_____.	_____.

Total for Lock 5 (CLINs 0008 through 0014)

\_\_\_\_\_.

## OFFER STATEMENT

Instruction: If the offeror is submitting proposals for both Lock 2 and Lock 5, the offeror must elect **one** of the following options by checking and initialing the blank next to the offeror's selection. Proposals that include offers for both Lock 2 and Lock 5 but do not make the election required below will not be considered for award.

Offers for both Lock 2 and Lock 5 are enclosed:

\_\_\_\_\_ The offers submitted for Lock 2 and Lock 5 are mutually exclusive. The Government may award a contract to this offeror for either Lock 2 or Lock 5, but not both, at the prices stated above.

Or

\_\_\_\_\_ The offers submitted for Lock 2 and Lock 5 may be accepted by the Government either individually or in combination. The Government may award a contract to this offeror at the prices stated above for Lock 2 only, Lock 5 only, or both Lock 2 and Lock 5.

*Notes to Offerors*

1. EFFECTIVE MAY 31, 1998, ALL CONTRACTORS MUST REGISTER WITH THE DEFENSE CENTRAL CONTRACTOR REGISTRATION (CCR) IN ORDER TO RECEIVE ANY CONTRACT AWARD. (other than those made via the Government credit card program). Contractors may register on line at <http://www.ccr2000.com>

2. All Quantities are estimated except where unit is given as "EA" (EACH) or "LS" (LUMP SUM).

3. The apparent low offer may be requested to provide the following information as soon as possible after bid opening:

- a. A Financial Statement, to include a balance sheet and income statement, and
- b. A Bank Certification of Financial Capability (line of credit).

This information will be treated as confidential. The financial statements should be not over 60 days old. If over 60 days old, a certification should be attached stating that the financial condition of the firm is substantially the same or, if not the same, the changes that have taken place.

4. All extensions of the unit prices shown will be subject to verification by the Government. In case of a discrepancy between the unit price and the extension, the unit price will govern.

5. NOTICE TO LARGE BUSINESS: The U.S. Army Corps of Engineers, St. Paul District, is committed to participation of Small Business, Small Disadvantaged Business and Women-Owned Small Business in the performance of work under this solicitation and resultant contract.

Your attention is directed to the solicitation clauses 52.219-0008 entitled "Utilization of Small Business Concerns", 52.219-0009 I entitled "Small Business Subcontracting Plan," and 52.219-7003 entitled "Small, Small Disadvantaged and Women-Owned Small Business Subcontracting Plan (DOD Contracts)".

If you are a large business and the apparent low bidder with a bid exceeding \$1,000,000, submission of a Subcontracting Plan in accordance with above clauses will be required. The Contracting Officer will review the plan using the following goals to assure that it represents your best efforts to maximize subcontracting opportunities. Award will not be made until the Subcontracting Plan is approved by the Contracting Officer.

The following subcontracting goals are informational only and not legally binding but are considered reasonable and achievable during the resultant contract from this solicitation. The goals expressed in percent of total planned subcontracting dollars are:

Small Business	57.2%
Small Disadvantaged Business	8.9%
Women-Owned Small Business	8.1%
HUBZone Small Business	3.0%
Service-Disabled Veteran-Owned Small Business	3.0%
Subcontract Reporting (SF 294 & SF 295)	100.0%

6. The original bid/proposal and any thereto modifications must be complete as to all the items on the schedule.

7. Unbalanced Offers. The Government may reject as any offer that is materially unbalanced between contract line item numbers or sub-items on the bidding schedule. An offer is materially unbalanced when it is based on prices that

are significantly less than cost for some work and prices that are overstated, in relation to cost, for other work. A materially unbalanced offer may be rejected if the Contracting Officer has a reasonable doubt as to whether the offer will result in the lowest overall cost to the government even though it may be the low evaluated offer. Additionally, an offer that is so unbalanced so as to be tantamount to an advance payment will be rejected even if acceptance of the offer would result in the lowest overall cost to the Government.

8. Any prospective offeror desiring an explanation or interpretation of the solicitation, drawings, specifications, etc., must request it in writing in accordance with Section 00100, Contract Clause "Explanation To Prospective Bidders", not later than 5 days prior to receipt of proposals. Questions can be faxed to (651) 290-5706, attention to Kevin Henricks. Questions received after the deadline may not be answered prior to closing.

9. Proposals shall be submitted (See Block 13 on the SF1442 for the closing date and time) as follows:

In person at the USACE St, Paul District Office on the 6<sup>th</sup> Floor or

Via facsimile to FAX number: 651-290-5706

Via expedited mail—Fed Ex etc. to: US Army Corps of Engineers, St. Paul District  
190 Fifth Street East  
Attn: Contracting Division  
St. Paul, MN 55101-1638

10. The addresses, phone numbers, and Internet address (if available) for references cited in these specifications are listed in the Unified Facilities Guide Specification (UFGS) 01420 USACE SOURCES FOR REFERENCE PUBLICATIONS. UFGS 01420 is available on the TECHINFO page of the Corps of Engineers Huntsville District Internet site at: [www.hnd.usace.army.mil/techinfo](http://www.hnd.usace.army.mil/techinfo).

11. Any forthcoming amendments will only be available on this web site. E-mail notifications will be sent upon issuance of any amendments to all registered firms. Due to e-mail message notifications may not be reliable based on system constraints, it is recommended that each registered firm check this web site periodically for updates. A paper hard copy of each amendment will not be mailed unless specifically requested in writing.

## 12. Bid/Proposal Bonds

a. It is the responsibility of the bidder to include an acceptable bid guarantee with their bid. This bid note does not provide bidders with an all-inclusive checklist for submitting an acceptable bid bond – rather, it provides some “lessons learned” information as to the unacceptability of photocopied bid bonds.

b. This solicitation requires bidders to submit a bid guarantee along with their bids (see clause 52.228-1). One acceptable form of bid guarantee is a bid bond. For a bid to be responsive, the bid bond accompanying the bid must unequivocally bind the bonding company – if it does not, the bid must be rejected as non-responsive. Please note that a non-responsive bid may not be corrected after bid opening to make it responsive – it must be rejected. The Contracting Officer has the authority and responsibility to determine whether the bid bond and its accompanying documentation clearly show that the person(s) executing the bid bond on behalf of the surety have the authority to unequivocally bind the bonding company. In order for a bid bond to be acceptable, it must be accompanied by a valid power-of-attorney issued by the surety (the bonding company, not the insurance agency writing the bond).

c. Photocopied or faxed powers-of-attorney are not acceptable. In order for a power-of-attorney accompanying a bid bond to be acceptable, it must be: (i) an original power-of-attorney (containing all original signatures) or (ii) a copy of a power-of-attorney accompanied by an original certification (original means original signature) by the secretary (or other authorized officer) of the surety stating that the copied power-of-attorney is still in full force and effect as of the date of the certification and has not been revoked. An original signature is one that (I) has been added at the time of the certification and (II) is manually affixed to the power of attorney (not computer generated). The presence of an original seal (a raised, crimped corporate seal or a paper or foil corporate seal that is manually attached) at the certification block of a power-of-attorney is not a substitute for an original signature.

13. For purposes of the clause entitled “52.219-4 -- Notice of Price Evaluation Preference for HUBZone Small Business Concerns (Jan 1999)”, the term “otherwise successful offer” means the lowest responsive bid from a responsible bidder prior to the application of any evaluation preference required by this clause.

14. The solicitation clause FAR 52.219-4 expressed that Small Disadvantaged Business (SDB) firms would receive both the HUBZone and SDB evaluation preference adjustments (See FAR clause 52.219-23). Guidance from the Office of the Under Secretary of Defense provides that DOD contracting activities, including the Department of the Army, shall suspend the use of price evaluation adjustments for SDB businesses in DOD Acquisitions, as prescribed in FAR subpart 19.11. Therefore the clause 52.219-23 is not contained in this solicitation and no SDB evaluation preference adjustment will be utilized.

**SECTION 00100 - Instructions to Offerors**

CLAUSES INCORPORATED BY FULL TEXT

**52.204-6 DATA UNIVERSAL NUMBERING SYSTEM (DUNS) NUMBER (OCT 2003)**

(a) The offeror shall enter, in the block with its name and address on the cover page of its offer, the annotation "DUNS" or "DUNS+4" followed by the DUNS number or "DUNS+4" that identifies the offeror's name and address exactly as stated in the offer. The DUNS number is a nine-digit number assigned by Dun and Bradstreet, Inc. The DUNS+4 is the DUNS number plus a 4-character suffix that may be assigned at the discretion of the offeror to establish additional CCR records for identifying alternative Electronic Funds Transfer (EFT) accounts (see Subpart 32.11) for the same parent concern.

(b) If the offeror does not have a DUNS number, it should contact Dun and Bradstreet directly to obtain one.

(1) An offeror may obtain a DUNS number--

(i) If located within the United States, by calling Dun and Bradstreet at 1-866-705-5711 or via the Internet at <http://www.dnb.com>; or

(ii) If located outside the United States, by contacting the local Dun and Bradstreet office.

(2) The offeror should be prepared to provide the following information:

(i) Company legal business name.

(ii) Tradestyle, doing business, or other name by which your entity is commonly recognized.

(iii) Company physical street address, city, state and Zip Code.

(iv) Company mailing address, city, state and Zip Code (if separate from physical).

(v) Company telephone number.

(vi) Date the company was started.

(vii) Number of employees at your location.

(viii) Chief executive officer/key manager.

(ix) Line of business (industry).

(x) Company Headquarters name and address (reporting relationship within your entity).

(End of provision)

**52.204-7 CENTRAL CONTRACTOR REGISTRATION (OCT 2003)**

(a) Definitions. As used in this clause--



Central Contractor Registration (CCR) database means the primary Government repository for Contractor information required for the conduct of business with the Government.

Data Universal Numbering System (DUNS) number means the 9-digit number assigned by Dun and Bradstreet, Inc. (D&B) to identify unique business entities.

Data Universal Numbering System +4 (DUNS+4) number means the DUNS number assigned by D&B plus a 4-character suffix that may be assigned by a business concern. (D&B has no affiliation with this 4-character suffix.) This 4-character suffix may be assigned at the discretion of the business concern to establish additional CCR records for identifying alternative Electronic Funds Transfer (EFT) accounts (see the FAR at Subpart 32.11) for the same parent concern.

Registered in the CCR database means that--

(1) The Contractor has entered all mandatory information, including the DUNS number or the DUNS+4 number, into the CCR database; and

(2) The Government has validated all mandatory data fields and has marked the record "Active".

(b)(1) By submission of an offer, the offeror acknowledges the requirement that a prospective awardee shall be registered in the CCR database prior to award, during performance, and through final payment of any contract, basic agreement, basic ordering agreement, or blanket purchasing agreement resulting from this solicitation.

(2) The offeror shall enter, in the block with its name and address on the cover page of its offer, the annotation "DUNS" or "DUNS +4" followed by the DUNS or DUNS +4 number that identifies the offeror's name and address exactly as stated in the offer. The DUNS number will be used by the Contracting Officer to verify that the offeror is registered in the CCR database.

(c) If the offeror does not have a DUNS number, it should contact Dun and Bradstreet directly to obtain one.

(1) An offeror may obtain a DUNS number--

(i) If located within the United States, by calling Dun and Bradstreet at 1-866-705-5711 or via the Internet at <http://www.dnb.com>; or

(ii) If located outside the United States, by contacting the local Dun and Bradstreet office.

(2) The offeror should be prepared to provide the following information:

(i) Company legal business.

(ii) Tradestyle, doing business, or other name by which your entity is commonly recognized.

(iii) Company Physical Street Address, City, State, and Zip Code.

(iv) Company Mailing Address, City, State and Zip Code (if separate from physical).

(v) Company Telephone Number.

(vi) Date the company was started.

(vii) Number of employees at your location.

(viii) Chief executive officer/key manager.

(ix) Line of business (industry).

(x) Company Headquarters name and address (reporting relationship within your entity).

(d) If the Offeror does not become registered in the CCR database in the time prescribed by the Contracting Officer, the Contracting Officer will proceed to award to the next otherwise successful registered Offeror.

(e) Processing time, which normally takes 48 hours, should be taken into consideration when registering. Offerors who are not registered should consider applying for registration immediately upon receipt of this solicitation.

(f) The Contractor is responsible for the accuracy and completeness of the data within the CCR database, and for any liability resulting from the Government's reliance on inaccurate or incomplete data. To remain registered in the CCR database after the initial registration, the Contractor is required to review and update on an annual basis from the date of initial registration or subsequent updates its information in the CCR database to ensure it is current, accurate and complete. Updating information in the CCR does not alter the terms and conditions of this contract and is not a substitute for a properly executed contractual document.

(g)(1)(i) If a Contractor has legally changed its business name, "doing business as" name, or division name (whichever is shown on the contract), or has transferred the assets used in performing the contract, but has not completed the necessary requirements regarding novation and change-of-name agreements in Subpart 42.12, the Contractor shall provide the responsible Contracting Officer a minimum of one business day's written notification of its intention to (A) change the name in the CCR database; (B) comply with the requirements of Subpart 42.12 of the FAR; and (C) agree in writing to the timeline and procedures specified by the responsible Contracting Officer. The Contractor must provide with the notification sufficient documentation to support the legally changed name.

(ii) If the Contractor fails to comply with the requirements of paragraph (g)(1)(i) of this clause, or fails to perform the agreement at paragraph (g)(1)(i)(C) of this clause, and, in the absence of a properly executed novation or change-of-name agreement, the CCR information that shows the Contractor to be other than the Contractor indicated in the contract will be considered to be incorrect information within the meaning of the "Suspension of Payment" paragraph of the electronic funds transfer (EFT) clause of this contract.

(2) The Contractor shall not change the name or address for EFT payments or manual payments, as appropriate, in the CCR record to reflect an assignee for the purpose of assignment of claims (see FAR Subpart 32.8, Assignment of Claims). Assignees shall be separately registered in the CCR database. Information provided to the Contractor's CCR record that indicates payments, including those made by EFT, to an ultimate recipient other than that Contractor will be considered to be incorrect information within the meaning of the "Suspension of payment" paragraph of the EFT clause of this contract.

(h) Offerors and Contractors may obtain information on registration and annual confirmation requirements via the internet at <http://www.ccr.gov> or by calling 1-888-227-2423, or 269-961-5757.

(End of clause)

#### **52.214-34 SUBMISSION OF OFFERS IN THE ENGLISH LANGUAGE (APR 1991)**

Offers submitted in response to this solicitation shall be in the English language. Offers received in other than English shall be rejected.

(End of provision)

**52.214-35 SUBMISSION OF OFFERS IN U.S. CURRENCY (APR 1991)**

Offers submitted in response to this solicitation shall be in terms of U.S. dollars. Offers received in other than U.S. dollars shall be rejected.

(End of provision)

**52.215-4005 PREPARATION AND EVALUATION OF PROPOSAL**

**1. REQUIRED FORMAT**

(A) All proposals must be submitted in two parts, a Technical Proposal and a Price Proposal. Your submittal must include a one-sided original and three copies of the Technical Proposal and a one-sided original and one copy of the Price Proposal. The Price Proposal must be sealed in a single, labeled, package separate from the Technical Proposal.

(B) All pages containing text shall be consecutively numbered, type written on 8 1/2 x 11 inch paper with margins of at least one inch, and created using a font no smaller than 12. Proposals shall not be permanently bound (in order to facilitate incorporation of portions of the proposal into the final contract document if necessary).

(C) The format used for the areas and factors below shall be strictly adhered to. All responses in the offeror's package shall clearly indicate the applicable Evaluation Area (A, B, or C) and Element (number in parentheses '( )') to which the response pertains.

(D) It is the offeror's responsibility to insure the completeness of the proposal. The evaluation panel for the Government may evaluate **solely** on the information provided in the initial proposal and will not assume that an offeror possesses any capability that is not specifically identified in the proposal.

(E) Only one proposal will be evaluated for each offeror. Alternate methods of accomplishing the work required by this solicitation will not be evaluated.

(F) An offeror that wishes to submit a proposal for Lock 2 work must propose on all items that pertain to the Lock 2 work (CLINs 0001 through 0007). An offeror that wishes to submit a proposal for Lock 5 work must propose on all items that pertain to the Lock 5 work (CLINs 0008 through 0014). An offeror that wishes to submit a proposal for both Lock 2 and Lock 5 work must propose on all items in this solicitation (CLINs 0001 through 0014). Award of the work for Lock 2 will be on an "All or None" basis. Award of the work for Lock 5 will be on an "All or None" basis.

The offerors should note that the work for each site will be awarded to the offeror, or combination of offerors, that provides the best overall aggregate cost to the Government. The offers will be evaluated as outlined below with the potential of one contract for Lock 2 being awarded to one offeror, one contract for Lock 5 being awarded to a second offeror, or a single contract for Lock 2 and Lock 5 being awarded to a single offeror. Offerors must submit **"only one"** proposal. The proposal must be for only Lock 2, only Lock 5, or for both Lock 2 and Lock 5. If an offeror submits a proposal for Lock 2 and Lock 5, the offeror must check and initial the appropriate statement at the end of the offer schedule.

While the Government intends to award contracts for both Lock 2 and Lock 5, it reserves the right to award a contract for Lock 2 alone, Lock 5 alone, or no contract at all if circumstances dictate. For instance, if the Government anticipates that sufficient funds will not be available to complete the work at both Lock 2 and Lock 5 during the

winter of 2004/2005, the Government may award just one contract or no contract at all. In the event of an anticipated funding shortfall, the Government considers the work at Lock 2 to have priority over the work at Lock 5. However, in the event that no technically acceptable offers are received for Lock 2 or the prices for Lock 2 are unreasonable, the government may award a contract for Lock 5 alone.

## 2. CONTENT OF TECHNICAL PROPOSAL

The technical proposal shall describe the capabilities and qualifications of each offeror to perform all aspects of the required services. Management capability, past performance, and price will be evaluated.

**Offerors that do not propose to perform all of the work required by this solicitation, as outlined in paragraph 1(F) above, will not be considered.**

## 3. EVALUATION FACTORS.

The evaluation factors and significant subfactors are listed below. It is intended that proposals be evaluated, and award made, without discussions with the offerors (other than discussion conducted for purpose of minor clarification[s]), unless discussions are determined to be necessary. Failure to submit mandatory information for a factor or subfactor, indicated by the word *shall*, will result in a rating of “unacceptable” for that factor or subfactor, and the offer will be ineligible for award. Requested information, indicated by the word *should*, is not mandatory, but missing, incomplete, or ambiguous information may result in a rating of “unacceptable” for that factor or subfactor. The technical evaluation factors—**management capability** and **past performance**, and their subfactors—will be evaluated first. **Price** will be evaluated last.

### a. Management Capability

Management capability has four significant subfactors: methodology, execution plan/schedule, key personnel, and relevant experience.

(1) Methodology will be evaluated because the project involves cutting concrete in close proximity to a conduit that carries water to and from the lock. It is imperative that the method used to cut the concrete does not in any way damage or crack the existing concrete that will remain between the bulkhead slots and conduit. There are several methods of performing the work, some of which may pose a danger, or an unacceptable risk of damage to the concrete surrounding the to the conduit because they transfer energy through the concrete. Some methods pose minimal danger, with acceptable risk that the remaining concrete will not be damaged. Offerors **shall** provide a complete, detailed, and feasible narrative description of their proposed methodology, demonstrating they have the necessary, equipment, marine plant, and expertise to safely cut concrete with no residual effects. Any proposed method involving high vibration, blasting, expansive agents, and/or transfer of excessive energy into the concrete will be unacceptable. The methodology subfactor will receive a rating of “acceptable” or “unacceptable” based on its entirety. Any plans not including the above considerations will be rated “unacceptable.” In order to receive an acceptable rating the proposed methodology must contain sufficient detail to convince the evaluators that the offeror’s methodology has considered all essential elements of the project, that the plan is well thought out and is without any omissions or apparent flaws, and that there is an adequate contingency plan to take care of any problem encountered.

(2) Execution Plan/Schedule. Construction will be performed from 1 December 2004 through 28 February 2005, because the locks and dams are operated on a strict time schedule—they are closed to river traffic during that period. Because of this, it is imperative the work be completed during this time and on schedule. Offerors **shall** provide a description of its plan of action to accomplish the work for the entire contract. This **shall**, at a minimum, include coordination with private entities and government agencies, shop drawing

preparation, and material procurement and delivery. Note that the data requested below are not elements that will be separately evaluated.

- Submit a narrative explanation of how the offeror will complete this project within the 90 calendar days that the lock and dam will be closed to navigation (1 December 2004 to 28 February 2005). The narrative **should** address how the offeror can mobilize labor, material, and equipment resources, and execute the project.
- Submit a diagram and narrative description of the field management organization and staffing the offeror will use to execute this project. Address the following: organization, staffing, qualifications, key personnel, management techniques, and rapid response to changes. The offeror's organizational diagrams **should** demonstrate the lines of authority and supervision, including who will directly manage and control the labor force and all other aspects of the work performed under this contract on a daily basis.
- Submit a bar chart of the construction schedule showing major summary activities that demonstrates how the offeror can complete all construction within the time period specified. These activities should include installation of the dewatering system, concrete removal, placement of insert and concrete, and replacement of anchorage.

The execution plan/schedule subfactor will receive a rating of "acceptable" or "unacceptable" based on its entirety. Any plans not including the above considerations will be rated "unacceptable." In order to receive an acceptable rating the proposed plan must contain sufficient detail to convince the evaluators that the offeror's plan has considered all essential elements of the project, that the plan is well thought out and is without any omissions or apparent flaws, and that there is an adequate contingency plan to take care of any problem encountered.

(3) Key Personnel. Offerors **shall** provide a list of key personnel, including any identified in the execution plan/schedule. Key personnel are defined as the offeror's proposed full-time employees and/or subcontractor employees in charge of directing operations at the construction sites. These may include, but may not be limited to, personnel such as the project manager and on-site supervisor in charge of the project. The list **shall**, at a minimum, list the qualifications of key personnel, including subcontractors, if any. Key personnel **shall** speak English fluently. If key positions are currently vacant, the offeror **shall** submit minimum qualifications required for individuals to fill these vacancies. If personnel presented here are later replaced, replacement personnel must have equal or better qualifications as those proposed and shall be approved by the contracting officer. Note that the data requested here are not elements that will be separately evaluated; the key personnel subfactor will receive a rating of "acceptable" or "unacceptable" based on its entirety. The offeror **shall** include the following additional information:

- Name of the person (if available)
- Title of position
- Technical background
- Educational level of person (university degree, technical school, high school, etc.)
- Number of years of relevant experience
- The person's level of English language proficiency

(4) Relevant Experience. Requested information indicated by the word *shall* is mandatory, and missing, incomplete, or ambiguous information could result in a rating of "unacceptable." Note that the data requested below are not subfactors that will be separately evaluated; the relevant experience factor will receive a rating of "acceptable" or "unacceptable" based on its entirety. Offerors **shall** submit a minimum of two projects that their key personnel (defined above) have successfully completed within the last three years that involved the elements listed below. These elements need not come from the same project:

- Cold-weather concrete placement;
- Marine construction;

- Dewatering around marine structures;
- Precise installation and alignment of large embedded steel and/or machinery components; and
- Commercial diving experience in underwater construction and installation of underwater structures.

However, individuals in charge of low-energy concrete removal techniques, including wire sawing and coring, shall have a minimum of three years of experience and shall have worked on a minimum of five jobs of a scope equivalent to or greater than this project in the depth and accuracy shown and indicated in the specifications. The experience shall have been completed in the five-year period prior to the commencement of this contract and shall consist of direct involvement or direct supervision of the work. Individuals in charge of the operations shall have direct supervision of all operations. Direct supervision means being on the lock wall for the entire operation and providing instruction and direction to ensure all operations meet contract requirements. For each project identified, offerors **shall** include the following information:

- Name of the project;
- Contract or subcontract number, if applicable;
- Client or agency responsible for administration of the contract. If the project submitted was a subcontract, identify the prime contractor and the agency administering the prime contract, including the phone number and e-mail address;
- Date the contract or subcontract was awarded, duration, and completion date;
- Location of the project;
- Role of the offeror's key personnel in the project;
- Value of the contract or subcontract;
- Brief (100 words or less) description of the work performed by the offeror's key personnel, including the construction trades used; and
- Demonstration of ability and resources to address the five above-mentioned elements, including special equipment used.

#### b. Past Performance

Offerors' past performance is a measure of the degree to which an offeror was successful on projects of similar scope, size, and complexity, as measured by the level of past customer satisfaction. It is also a measure of the degree to which an offeror has complied with Federal, state, and local laws and regulations. The Government's assessment of past performance will be subjective and based mainly on offeror reputations with customers and other sources. The Government will evaluate the reference information/performance data provided by offerors and obtained from other sources, such as Government databases. Note that the data requested below are not subfactors that will be separately evaluated; past performance will receive a consensus evaluation based on its entirety.

(1) Offerors **should** submit a list of at least three, but no more than five, past performance references for work performed since 1999 that **should** meet the following conditions. If more than five past performance references are submitted, only the first five will be considered. If less than three past performance references are submitted, they will be evaluated, and the lack of the requested number of projects will not be evaluated favorably or unfavorably for this factor (see subparagraph (4) below).

- (a) The past performance reference must have been a client, or client representative, with whom the offeror had a contract, or subcontract (if applicable) for one or more projects.
- (b) The past performance reference must hold, or held at the time, a senior position in the client organization with responsibilities for either contract administration, quality control, engineering or technical supervision, or was otherwise in a position to evaluate the offeror's performance in executing the contract or subcontract. The past performance reference must have first hand knowledge of the offeror's performance.

- (c) The past performance reference must have a current, valid phone number they can be reached at during normal business hours, a fax number, and must be able to speak, read, and write in the English language.
- (2) For each of the past performance references described in (a) above, offerors **shall** submit the following information.
  - (a) The name, title, company or government agency, and address of the past performance reference.
  - (b) A current, valid phone number and fax number at which the past performance reference can be reached during normal business hours. If available, include an e-mail address as well.
  - (c) A brief description of the qualifying project or projects, including name, location, and year completed, for which the past performance reference will be able to provide valid past performance information.
  - (d) Offerors may include information on problems encountered on the identified contracts and the offeror's corrective actions.
- (3) The government may contact any or all of the past performance references provided by the offerors to collect and evaluate past performance information. This information may be written or oral. The government shall consider this information, as well as information obtained from any other sources, when evaluating an offeror's past performance. The evaluation will take into account past performance information regarding predecessor companies, key personnel who have relevant experience, or subcontractors that will perform major or critical aspects of the requirement when such information is available and relevant to the instant acquisition.
- (4) In the case of an offeror without a record of relevant past performance or for whom information on past performance is not available, the offeror may not be evaluated favorably or unfavorably. If the government is unable to reach an individual past performance reference within a reasonable time, this will be treated as "past performance information not available," and will not be evaluated favorably or unfavorably.
- (5) The past performance factor will receive a rating of "acceptable" or "unacceptable" based on its entirety. Collected past performance information will be rated "acceptable" if it reflects performance that met contractual requirements. The contractual performance of a particular element or sub-element may contain some minor problems for which corrective actions taken by the offeror appear or were satisfactory.

#### c. Price

- (1) Offerors **shall** complete and submit the price schedule with their proposal and include a price for each line item, including subtotals and totals. Failure to do so will result in the proposal being rejected without further consideration. Award will be made to the lowest priced, technically acceptable proposal.
- (2) The SSEB will evaluate each offeror's price in accordance with FAR 15.4 to determine reasonableness and evaluate potential performance risks. In this context, reasonableness will be determined by comparing offered prices to one another and to the government estimate. This factor will be rated by the SSEB as either reasonable or unreasonable.

#### 4. PROPOSAL EVALUATION

a. After receipt of proposals, the SSEB will convene and the voting members will independently evaluate the submitted proposals according to the evaluation factors and significant subfactors. Once the individual evaluations are completed, the SSEB chairperson will direct the SSEB in discussion of each proposal, and they will come to a consensus decision as to the acceptability of each factor or subfactor, as applicable. After concluding the evaluations, the chairperson will provide an oral briefing of the consensus evaluation results to the SSA and submit a written consensus evaluation report for the record. The written consensus report will discuss the reasons for acceptability or unacceptability of proposals noted during the SSEB evaluation. The SSEB will make no recommendation as to whom shall receive the award and additionally shall not establish a rank order or order of merit list pertaining to the offers being evaluated.

b. After receiving the SSEB chairperson's report and briefing, the SSA, independently exercising prudent business judgment, will make a source selection decision on the basis of the lowest evaluated price of proposals meeting or exceeding the acceptability standards for non-cost factors. While the SSA may use reports and analyses prepared by others, the source selection decision shall represent the SSA's independent judgment. The source selection decision shall be documented, and the documentation shall include the rationale for any business judgments made or relied on by the SSA.

c. If, during the evaluation process, any offerors are eliminated from the competitive range, the offerors excluded from the competitive range shall be promptly notified in writing. The notice shall state the basis for the determination and that a proposal revision will not be considered. The contracting officer shall award a contract to the successful offeror by furnishing the executed contract or other notice of the award to that offeror. Each offeror whose proposal was in the competitive range, but was not selected for award, will be notified in writing within three days after the date of the contract award. Debriefings will be provided to unsuccessful offerors who submit timely requests.

**\*\*\*NOTE - ALTERNATE PROPOSALS WILL NOT BE REVIEWED OR CONSIDERED FOR AWARD.**

**\*\*\*NOTE - ALL PROSPECTIVE FIRMS ARE ADVISED THAT ALL EQUIPMENT, SUBCONTRACTORS, AND KEY PERSONNEL PROPOSED FOR UTILIZATION IN PERFORMANCE OF REQUIRED WORK MUST, UNLESS REQUESTED CHANGES ARE APPROVED IN ADVANCE BY THE GOVERNMENT, BE USED IN THE MANNER PROPOSED.**

#### ***52.215-1 INSTRUCTIONS TO OFFERORS--COMPETITIVE ACQUISITION (JAN 2004)***

(a) Definitions. As used in this provision--

“Discussions” are negotiations that occur after establishment of the competitive range that may, at the Contracting Officer's discretion, result in the offeror being allowed to revise its proposal.

“In writing or written” means any worded or numbered expression which can be read, reproduced, and later communicated, and includes electronically transmitted and stored information.

“Proposal modification” is a change made to a proposal before the solicitation's closing date and time, or made in response to an amendment, or made to correct a mistake at any time before award.

“Proposal revision” is a change to a proposal made after the solicitation closing date, at the request of or as allowed by a Contracting Officer as the result of negotiations.

“Time”, if stated as a number of days, is calculated using calendar days, unless otherwise specified, and will include Saturdays, Sundays, and legal holidays. However, if the last day falls on a Saturday, Sunday, or legal holiday, then the period shall include the next working day.



(b) Amendments to solicitations. If this solicitation is amended, all terms and conditions that are not amended remain unchanged. Offerors shall acknowledge receipt of any amendment to this solicitation by the date and time specified in the amendment(s).

(c) Submission, modification, revision, and withdrawal of proposals. (1) Unless other methods (e.g., electronic commerce or facsimile) are permitted in the solicitation, proposals and modifications to proposals shall be submitted in paper media in sealed envelopes or packages (i) addressed to the office specified in the solicitation, and (ii) showing the time and date specified for receipt, the solicitation number, and the name and address of the offeror. Offerors using commercial carriers should ensure that the proposal is marked on the outermost wrapper with the information in paragraphs (c)(1)(i) and (c)(1)(ii) of this provision.

(2) The first page of the proposal must show--

(i) The solicitation number;

(ii) The name, address, and telephone and facsimile numbers of the offeror (and electronic address if available);

(iii) A statement specifying the extent of agreement with all terms, conditions, and provisions included in the solicitation and agreement to furnish any or all items upon which prices are offered at the price set opposite each item;

(iv) Names, titles, and telephone and facsimile numbers (and electronic addresses if available) of persons authorized to negotiate on the offeror's behalf with the Government in connection with this solicitation; and

(v) Name, title, and signature of person authorized to sign the proposal. Proposals signed by an agent shall be accompanied by evidence of that agent's authority, unless that evidence has been previously furnished to the issuing office.

(3) Submission, modification, or revision, of proposals.

(i) Offerors are responsible for submitting proposals, and any modifications, or revisions, so as to reach the Government office designated in the solicitation by the time specified in the solicitation. If no time is specified in the solicitation, the time for receipt is 4:30 p.m., local time, for the designated Government office on the date that proposal or revision is due.

(ii)(A) Any proposal, modification, or revision received at the Government office designated in the solicitation after the exact time specified for receipt of offers is "late" and will not be considered unless it is received before award is made, the Contracting Officer determines that accepting the late offer would not unduly delay the acquisition; and--

(1) If it was transmitted through an electronic commerce method authorized by the solicitation, it was received at the initial point of entry to the Government infrastructure not later than 5:00 p.m. one working day prior to the date specified for receipt of proposals; or

(2) There is acceptable evidence to establish that it was received at the Government installation designated for receipt of offers and was under the Government's control prior to the time set for receipt of offers; or

(3) It is the only proposal received.

(B) However, a late modification of an otherwise successful proposal that makes its terms more favorable to the Government, will be considered at any time it is received and may be accepted.

(iii) Acceptable evidence to establish the time of receipt at the Government installation includes the time/date stamp of that installation on the proposal wrapper, other documentary evidence of receipt maintained by the installation, or oral testimony or statements of Government personnel.

(iv) If an emergency or unanticipated event interrupts normal Government processes so that proposals cannot be received at the office designated for receipt of proposals by the exact time specified in the solicitation, and urgent Government requirements preclude amendment of the solicitation, the time specified for receipt of proposals will be deemed to be extended to the same time of day specified in the solicitation on the first work day on which normal Government processes resume.

(v) Proposals may be withdrawn by written notice received at any time before award. Oral proposals in response to oral solicitations may be withdrawn orally. If the solicitation authorizes facsimile proposals, proposals may be withdrawn via facsimile received at any time before award, subject to the conditions specified in the provision at 52.215-5, Facsimile Proposals. Proposals may be withdrawn in person by an offeror or an authorized representative, if the identity of the person requesting withdrawal is established and the person signs a receipt for the proposal before award.

(4) Unless otherwise specified in the solicitation, the offeror may propose to provide any item or combination of items.

(5) Offerors shall submit proposals in response to this solicitation in English, unless otherwise permitted by the solicitation, and in U.S. dollars, unless the provision at FAR 52.225-17, Evaluation of Foreign Currency Offers, is included in the solicitation.

(6) Offerors may submit modifications to their proposals at any time before the solicitation closing date and time, and may submit modifications in response to an amendment, or to correct a mistake at any time before award.

(7) Offerors may submit revised proposals only if requested or allowed by the Contracting Officer.

(8) Proposals may be withdrawn at any time before award. Withdrawals are effective upon receipt of notice by the Contracting Officer.

(d) Offer expiration date. Proposals in response to this solicitation will be valid for the number of days specified on the solicitation cover sheet (unless a different period is proposed by the offeror).

(e) Restriction on disclosure and use of data. Offerors that include in their proposals data that they do not want disclosed to the public for any purpose, or used by the Government except for evaluation purposes, shall--

(1) Mark the title page with the following legend: This proposal includes data that shall not be disclosed outside the Government and shall not be duplicated, used, or disclosed--in whole or in part--for any purpose other than to evaluate this proposal. If, however, a contract is awarded to this offeror as a result of--or in connection with-- the submission of this data, the Government shall have the right to duplicate, use, or disclose the data to the extent provided in the resulting contract. This restriction does not limit the Government's right to use information contained in this data if it is obtained from another source without restriction. The data subject to this restriction are contained in sheets [insert numbers or other identification of sheets]; and

(2) Mark each sheet of data it wishes to restrict with the following legend: Use or disclosure of data contained on this sheet is subject to the restriction on the title page of this proposal.

(f) Contract award. (1) The Government intends to award a contract or contracts resulting from this solicitation to the responsible offeror(s) whose proposal(s) represents the best value after evaluation in accordance with the factors and subfactors in the solicitation.

- (2) The Government may reject any or all proposals if such action is in the Government's interest.
- (3) The Government may waive informalities and minor irregularities in proposals received.
- (4) The Government intends to evaluate proposals and award a contract without discussions with offerors (except clarifications as described in FAR 15.306(a)). Therefore, the offeror's initial proposal should contain the offeror's best terms from a cost or price and technical standpoint. The Government reserves the right to conduct discussions if the Contracting Officer later determines them to be necessary. If the Contracting Officer determines that the number of proposals that would otherwise be in the competitive range exceeds the number at which an efficient competition can be conducted, the Contracting Officer may limit the number of proposals in the competitive range to the greatest number that will permit an efficient competition among the most highly rated proposals.
- (5) The Government reserves the right to make an award on any item for a quantity less than the quantity offered, at the unit cost or prices offered, unless the offeror specifies otherwise in the proposal.
- (6) The Government reserves the right to make multiple awards if, after considering the additional administrative costs, it is in the Government's best interest to do so.
- (7) Exchanges with offerors after receipt of a proposal do not constitute a rejection or counteroffer by the Government.
- (8) The Government may determine that a proposal is unacceptable if the prices proposed are materially unbalanced between line items or subline items. Unbalanced pricing exists when, despite an acceptable total evaluated price, the price of one or more contract line items is significantly overstated or understated as indicated by the application of cost or price analysis techniques. A proposal may be rejected if the Contracting Officer determines that the lack of balance poses an unacceptable risk to the Government.
- (9) If a cost realism analysis is performed, cost realism may be considered by the source selection authority in evaluating performance or schedule risk.
- (10) A written award or acceptance of proposal mailed or otherwise furnished to the successful offeror within the time specified in the proposal shall result in a binding contract without further action by either party.
- (11) If a post-award debriefing is given to requesting offerors, the Government shall disclose the following information, if applicable:
- (i) The agency's evaluation of the significant weak or deficient factors in the debriefed offeror's offer.
  - (ii) The overall evaluated cost or price and technical rating of the successful and the debriefed offeror and past performance information on the debriefed offeror.
  - (iii) The overall ranking of all offerors, when any ranking was developed by the agency during source selection.
  - (iv) A summary of the rationale for award.
  - (v) For acquisitions of commercial items, the make and model of the item to be delivered by the successful offeror.
  - (vi) Reasonable responses to relevant questions posed by the debriefed offeror as to whether source-selection procedures set forth in the solicitation, applicable regulations, and other applicable authorities were followed by the agency.

(End of provision)

**52.216-1 TYPE OF CONTRACT (APR 1984)**

The Government contemplates award of a firm-fixed price construction contract resulting from this solicitation.

(End of clause)

**52.225-10 NOTICE OF BUY AMERICAN ACT REQUIREMENT--CONSTRUCTION MATERIALS (MAY 2002) ALTERNATE I (MAY 2002)**

(a) Definitions. Construction material, domestic construction material, and foreign construction material, as used in this provision, are defined in the clause of this solicitation entitled "Buy American Act --Construction Materials" (Federal Acquisition Regulation (FAR) clause 52.225-9).

(b) Requests for determinations of inapplicability. An offeror requesting a determination regarding the inapplicability of the Buy American Act shall submit the request with its offer, including the information and applicable supporting data required by paragraphs (c) and (d) of the clause at FAR 52.225-9.

(c) Evaluation of offers. (1) The Government will evaluate an offer requesting exception to the requirements of the Buy American Act, based on claimed unreasonable cost of domestic construction material, by adding to the offered price the appropriate percentage of the cost of such foreign construction material, as specified in paragraph (b)(3)(i) of the clause at FAR 52.225-9.

(2) If evaluation results in a tie between an offeror that requested the substitution of foreign construction material based on unreasonable cost and an offeror that did not request an exception, the Contracting Officer will award to the offeror that did not request an exception based on unreasonable cost.

(d) Alternate offers.

(1) When an offer includes foreign construction material not listed by the Government in this solicitation in paragraph (b)(2) of the clause at FAR 52.225-9, the offeror also may submit an alternate offer based on use of equivalent domestic construction material.

(2) If an alternate offer is submitted, the offeror shall submit a separate Standard Form 1442 for the alternate offer, and a separate price comparison table prepared in accordance with paragraphs (c) and (d) of the clause at FAR 52.225-9 for the offer that is based on the use of any foreign construction material for which the Government has not yet determined an exception applies.

(3) If the Government determines that a particular exception requested in accordance with paragraph (c) of the clause at FAR 52.225-9 does not apply, the Government will evaluate only those offers based on use of the equivalent domestic construction material, and the offeror shall be required to furnish such domestic construction material. An offer based on use of the foreign construction material for which an exception was requested--

(i) Will be rejected as nonresponsive if this acquisition is conducted by sealed bidding; or

(ii) May be accepted if revised during negotiations.

(End of provision)

**52.233-2 SERVICE OF PROTEST (AUG 1996)**

(a) Protests, as defined in section 33.101 of the Federal Acquisition Regulation, that are filed directly with an agency, and copies of any protests that are filed with the General Accounting Office (GAO), shall be served on the Contracting Officer (addressed as follows) by obtaining written and dated acknowledgment of receipt from

Corps of Engineers, St. Paul District  
Contracting Officer  
190 5<sup>th</sup> Street East  
St. Paul, MN 55101

(b) The copy of any protest shall be received in the office designated above within one day of filing a protest with the GAO.

(End of provision)

**52.236-27 SITE VISIT (CONSTRUCTION) (FEB 1995)**

(a) The clauses at 52.236-2, Differing Site Conditions, and 52.236-3, Site Investigations and Conditions Affecting the Work, will be included in any contract awarded as a result of this solicitation. Accordingly, offerors or quoters are urged and expected to inspect the site where the work will be performed.

(b) Site visits may be arranged during normal duty hours by contacting:

For Lock 2:  
Name: Joe Dvorak  
Address: 1350 Dam Road  
Hastings, MN 55033-1145  
Telephone: 651-437-5398

For Lock 5:  
Name: Daniel Schmidt  
Address: 12554 Highway 61  
Minnesota City, MN 55959-9756  
Telephone: 507-689-2101

(End of provision)

**52.236-28 PREPARATION OF PROPOSALS--CONSTRUCTION (OCT 1997)**

(a) Proposals must be (1) submitted on the forms furnished by the Government or on copies of those forms, and (2) manually signed. The person signing a proposal must initial each erasure or change appearing on any proposal form.

(b) The proposal form may require offerors to submit proposed prices for one or more items on various bases, including--

(1) Lump sum price;

(2) Alternate prices;

(3) Units of construction; or

(4) Any combination of paragraphs (b)(1) through (b)(3) of this provision.

(c) If the solicitation requires submission of a proposal on all items, failure to do so may result in the proposal being rejected without further consideration. If a proposal on all items is not required, offerors should insert the words "no proposal" in the space provided for any item on which no price is submitted.

(d) Alternate proposals will not be considered unless this solicitation authorizes their submission.

(End of provision)

#### **52.236-4002 WORK PERFORMED BY THE CONTRACTOR**

The successful bidder must furnish the Contracting Officer within 10 days after the award, the items of work which he will perform with his own forces, the percentage of the total work this represents, and the estimated cost thereof. (See Section 00700, clause entitled ("Performance of Work by Contractor, FAR Clause 52.236-1")).

#### **52.252-1 SOLICITATION PROVISIONS INCORPORATED BY REFERENCE (FEB 1998)**

This solicitation incorporates one or more solicitation provisions by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. The offeror is cautioned that the listed provisions may include blocks that must be completed by the offeror and submitted with its quotation or offer. In lieu of submitting the full text of those provisions, the offeror may identify the provision by paragraph identifier and provide the appropriate information with its quotation or offer. Also, the full text of a solicitation provision may be accessed electronically at this/these address(es):

[www.arnet.gov/far](http://www.arnet.gov/far)

(End of provision)

#### **52.252-5 AUTHORIZED DEVIATIONS IN PROVISIONS (APR 1984)**

(a) The use in this solicitation of any Federal Acquisition Regulation (48 CFR Chapter 1) provision with an authorized deviation is indicated by the addition of "(DEVIATION)" after the date of the provision.

(b) The use in this solicitation of any [Federal Acquisition Regulation](#) (48 CFR Chapter 1) provision with an authorized deviation is indicated by the addition of "(DEVIATION)" after the name of the regulation.

(End of provision)

**SECTION 00600 - Representations & Certifications**

## CLAUSES INCORPORATED BY FULL TEXT

**52.203-2 CERTIFICATE OF INDEPENDENT PRICE DETERMINATION (APR 1985)**

(a) The offeror certifies that --

(1) The prices in this offer have been arrived at independently, without, for the purpose of restricting competition, any consultation, communication, or agreement with any other offeror or competitor relating to --

(i) Those prices,

(ii) The intention to submit an offer, or

(iii) The methods of factors used to calculate the prices offered:

(2) The prices in this offer have not been and will not be knowingly disclosed by the offeror, directly or indirectly, to any other offeror or competitor before bid opening (in the case of a sealed bid solicitation) or contract award (in the case of a negotiated solicitation) unless otherwise required by law; and

(3) No attempt has been made or will be made by the offeror to induce any other concern to submit or not to submit an offer for the purpose of restricting competition.

(b) Each signature on the offer is considered to be a certification by the signatory that the signatory --

(1) Is the person in the offeror's organization responsible for determining the prices offered in this bid or proposal, and that the signatory has not participated and will not participate in any action contrary to subparagraphs (a)(1) through (a)(3) of this provision; or

(2) (i) Has been authorized, in writing, to act as agent for the following principals in certifying that those principals have not participated, and will not participate in any action contrary to subparagraphs (a)(1) through (a)(3) of this provision \_\_\_\_\_ (insert full name of person(s) in the offeror's organization responsible for determining the prices offered in this bid or proposal, and the title of his or her position in the offeror's organization);

(ii) As an authorized agent, does certify that the principals named in subdivision (b)(2)(i) above have not participated, and will not participate, in any action contrary to subparagraphs (a)(1) through (a)(3) above; and

(iii) As an agent, has not personally participated, and will not participate, in any action contrary to subparagraphs (a)(1) through (a)(3) of this provision.

(c) If the offeror deletes or modifies subparagraph (a)(2) of this provision, the offeror must furnish with its offer a signed statement setting forth in detail the circumstances of the disclosure.

(End of clause)

**52.203-11 CERTIFICATION AND DISCLOSURE REGARDING PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS (APR 1991)**

(a) The definitions and prohibitions contained in the clause, at FAR 52.203-12, Limitation on Payments to Influence Certain Federal Transactions, included in this solicitation, are hereby incorporated by reference in paragraph (b) of this Certification.

(b) The offeror, by signing its offer, hereby certifies to the best of his or her knowledge and belief that on or after December 23, 1989,--

(1) No Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress on his or her behalf in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment or modification of any Federal contract, grant, loan, or cooperative agreement;

(2) If any funds other than Federal appropriated funds (including profit or fee received under a covered Federal transaction) have been paid, or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress or an employee of a Member of Congress on his or her behalf in connection with this solicitation, the offeror shall complete and submit, with its offer, OMB standard form LLL, Disclosure of Lobbying Activities, to the Contracting Officer; and

(3) He or she will include the language of this certification in all subcontract awards at any tier and require that all recipients of subcontract awards in excess of \$100,000 shall certify and disclose accordingly.

(c) Submission of this certification and disclosure is a prerequisite for making or entering into this contract imposed by section 1352, title 31, United States Code. Any person who makes an expenditure prohibited under this provision, shall be subject to a civil penalty of not less than \$10,000, and not more than \$100,000, for each such failure.

(End of provision)

### **52.204-3 TAXPAYER IDENTIFICATION (OCT 1998)**

(a) Definitions.

“Common parent,” as used in this provision, means that corporate entity that owns or controls an affiliated group of corporations that files its Federal income tax returns on a consolidated basis, and of which the offeror is a member.

“Taxpayer Identification Number (TIN),” as used in this provision, means the number required by the Internal Revenue Service (IRS) to be used by the offeror in reporting income tax and other returns. The TIN may be either a Social Security Number or an Employer Identification Number.

(b) All offerors must submit the information required in paragraphs (d) through (f) of this provision to comply with debt collection requirements of 31 U.S.C. 7701(c) and 3325(d), reporting requirements of 26 U.S.C. 6041, 6041A, and 6050M, and implementing regulations issued by the IRS. If the resulting contract is subject to the payment reporting requirements described in Federal Acquisition Regulation (FAR) 4.904, the failure or refusal by the offeror to furnish the information may result in a 31 percent reduction of payments otherwise due under the contract.

(c) The TIN may be used by the Government to collect and report on any delinquent amounts arising out of the offeror's relationship with the Government (31 U.S.C. 7701(c)(3)). If the resulting contract is subject to the payment reporting requirements described in FAR 4.904, the TIN provided hereunder may be matched with IRS records to verify the accuracy of the offeror's TIN.



## (d) Taxpayer Identification Number (TIN).

☐ TIN: \_\_\_\_\_☐ TIN has been applied for.☐ TIN is not required because:☐ Offeror is a nonresident alien, foreign corporation, or foreign partnership that does not have income effectively connected with the conduct of a trade or business in the United States and does not have an office or place of business or a fiscal paying agent in the United States;☐ Offeror is an agency or instrumentality of a foreign government;☐ Offeror is an agency or instrumentality of the Federal Government.

## (e) Type of organization.

☐ Sole proprietorship;☐ Partnership;☐ Corporate entity (not tax-exempt);☐ Corporate entity (tax-exempt);☐ Government entity (Federal, State, or local);☐ Foreign government;☐ International organization per 26 CFR 1.6049-4;☐ Other \_\_\_\_\_

## (f) Common parent.

☐ Offeror is not owned or controlled by a common parent as defined in paragraph (a) of this provision.☐ Name and TIN of common parent:

Name \_\_\_\_\_

TIN \_\_\_\_\_

(End of provision)

**52.204-5 WOMEN-OWNED BUSINESS (OTHER THAN SMALL BUSINESS) (MAY 1999)**

(a) Definition. Women-owned business concern, as used in this provision, means a concern that is at least 51 percent owned by one or more women; or in the case of any publicly owned business, at least 51 percent of its stock is

owned by one or more women; and whose management and daily business operations are controlled by one or more women.

(b) Representation. [Complete only if the offeror is a women-owned business concern and has not represented itself as a small business concern in paragraph (b)(1) of FAR 52.219-1, Small Business Program Representations, of this solicitation.] The offeror represents that it ( ) is a women-owned business concern.

(End of provision)

**52.209-5 CERTIFICATION REGARDING DEBARMENT, SUSPENSION, PROPOSED DEBARMENT, AND OTHER RESPONSIBILITY MATTERS (DEC 2001)**

(a)(1) The Offeror certifies, to the best of its knowledge and belief, that-

(i) The Offeror and/or any of its Principals -

(A) Are ( ) are not ( ) presently debarred, suspended, proposed for debarment, or declared ineligible for the award of contracts by any Federal agency;

(B) Have ( ) have not ( ), within a three-year period preceding this offer, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, state, or local) contract or subcontract; violation of Federal or state antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, or receiving stolen property; and

(C) Are ( ) are not ( ) presently indicted for, or otherwise criminally or civilly charged by a governmental entity with, commission of any of the offenses enumerated in paragraph (a)(1)(i)(B) of this provision.

(ii) The Offeror has ( ) has not ( ), within a three-year period preceding this offer, had one or more contracts terminated for default by any Federal agency.

(2) "Principals," for the purposes of this certification, means officers; directors; owners; partners; and, persons having primary management or supervisory responsibilities within a business entity (e.g., general manager; plant manager; head of a subsidiary, division, or business segment, and similar positions).

This Certification Concerns a Matter Within the Jurisdiction of an Agency of the United States and the Making of a False, Fictitious, or Fraudulent Certification May Render the Maker Subject to Prosecution Under Section 1001, Title 18, United States Code.

(b) The Offeror shall provide immediate written notice to the Contracting Officer if, at any time prior to contract award, the Offeror learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

(c) A certification that any of the items in paragraph (a) of this provision exists will not necessarily result in withholding of an award under this solicitation. However, the certification will be considered in connection with a determination of the Offeror's responsibility. Failure of the Offeror to furnish a certification or provide such additional information as requested by the Contracting Officer may render the Offeror nonresponsible.

(d) Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render, in good faith, the certification required by paragraph (a) of this provision. The knowledge and information of

an Offeror is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

(e) The certification in paragraph (a) of this provision is a material representation of fact upon which reliance was placed when making award. If it is later determined that the Offeror knowingly rendered an erroneous certification, in addition to other remedies available to the Government, the Contracting Officer may terminate the contract resulting from this solicitation for default.

(End of provision)

**52.219-1 SMALL BUSINESS PROGRAM REPRESENTATIONS (APR 2002) - ALTERNATE I (APR 2002)**

(a)(1) The North American Industry Classification System (NAICS) code for this acquisition is 237990.

(2) The small business size standard is \$28.5 million.

(3) The small business size standard for a concern which submits an offer in its own name, other than on a construction or service contract, but which proposes to furnish a product which it did not itself manufacture, is 500 employees.

(b) Representations. (1) The offeror represents as part of its offer that it ( ) is, ( ) is not a small business concern.

(2) (Complete only if the offeror represented itself as a small business concern in paragraph (b)(1) of this provision.) The offeror represents, for general statistical purposes, that it ( ) is, ( ) is not a small disadvantaged business concern as defined in 13 CFR 124.1002.

(3) (Complete only if the offeror represented itself as a small business concern in paragraph (b)(1) of this provision.) The offeror represents as part of its offer that it ( ) is, ( ) is not a women-owned small business concern.

(4) (Complete only if the offeror represented itself as a small business concern in paragraph (b)(1) of this provision.) The offeror represents as part of its offer that it ( ) is, ( ) is not a veteran-owned small business concern.

(5) (Complete only if the offeror represented itself as a veteran-owned small business concern in paragraph (b)(4) of this provision.) The offeror represents as part of its offer that it ( ) is, ( ) is not a service-disabled veteran-owned small business concern.

(6) [Complete only if the offeror represented itself as a small business concern in paragraph (b)(1) of this provision.] The offeror represents, as part of its offer, that--

(i) It ( ) is, ( ) is not a HUBZone small business concern listed, on the date of this representation, on the List of Qualified HUBZone Small Business Concerns maintained by the Small Business Administration, and no material change in ownership and control, principal office, or HUBZone employee percentage has occurred since it was certified by the Small Business Administration in accordance with 13 CFR part 126; and

(ii) It ( ) is, ( ) is not a joint venture that complies with the requirements of 13 CFR part 126, and the representation in paragraph (b)(6)(i) of this provision is accurate for the HUBZone small business concern or concerns that are participating in the joint venture. (The offeror shall enter the name or names of the HUBZone small business concern or concerns that are participating in the joint venture:\_\_\_\_\_.) Each HUBZone small business concern participating in the joint venture shall submit a separate signed copy of the HUBZone representation.

(7) (Complete if offeror represented itself as disadvantaged in paragraph (b)(2) of this provision.) The offeror shall check the category in which its ownership falls:

\_\_\_\_\_ Black American.

\_\_\_\_\_ Hispanic American.

\_\_\_\_\_ Native American (American Indians, Eskimos, Aleuts, or Native Hawaiians).

\_\_\_\_\_ Asian-Pacific American (persons with origins from Burma, Thailand, Malaysia, Indonesia, Singapore, Brunei, Japan, China, Taiwan, Laos, Cambodia (Kampuchea), Vietnam, Korea, The Philippines, U.S. Trust Territory of the Pacific Islands (Republic of Palau), Republic of the Marshall Islands, Federated States of Micronesia, the Commonwealth of the Northern Mariana Islands, Guam, Samoa, Macao, Hong Kong, Fiji, Tonga, Kiribati, Tuvalu, or Nauru).

\_\_\_\_\_ Subcontinent Asian (Asian-Indian) American (persons with origins from India, Pakistan, Bangladesh, Sri Lanka, Bhutan, the Maldives Islands, or Nepal).

\_\_\_\_\_ Individual/concern, other than one of the preceding.

(c) Definitions. As used in this provision--

Service-disabled veteran-owned small business concern--

(1) Means a small business concern--

(i) Not less than 51 percent of which is owned by one or more service-disabled veterans or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more service-disabled veterans; and

(ii) The management and daily business operations of which are controlled by one or more service-disabled veterans or, in the case of a veteran with permanent and severe disability, the spouse or permanent caregiver of such veteran.

(2) Service-disabled veteran means a veteran, as defined in 38 U.S.C. 101(2), with a disability that is service-connected, as defined in 38 U.S.C. 101(16).

"Small business concern," means a concern, including its affiliates, that is independently owned and operated, not dominant in the field of operation in which it is bidding on Government contracts, and qualified as a small business under the criteria in 13 CFR Part 121 and the size standard in paragraph (a) of this provision.

Veteran-owned small business concern means a small business concern--

(1) Not less than 51 percent of which is owned by one or more veterans (as defined at 38 U.S.C. 101(2)) or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more veterans; and

(2) The management and daily business operations of which are controlled by one or more veterans.

"Women-owned small business concern," means a small business concern --

(1) That is at least 51 percent owned by one or more women or, in the case of any publicly owned business, at least 51 percent of the stock of which is owned by one or more women; or

(2) Whose management and daily business operations are controlled by one or more women.

(d) Notice.

(1) If this solicitation is for supplies and has been set aside, in whole or in part, for small business concerns, then the clause in this solicitation providing notice of the set-aside contains restrictions on the source of the end items to be furnished.

(2) Under 15 U.S.C. 645(d), any person who misrepresents a firm's status as a small, HUBZone small, small disadvantaged, or women-owned small business concern in order to obtain a contract to be awarded under the preference programs established pursuant to section 8(a), 8(d), 9, or 15 of the Small Business Act or any other provision of Federal law that specifically references section 8(d) for a definition of program eligibility, shall--

(i) Be punished by imposition of fine, imprisonment, or both;

(ii) Be subject to administrative remedies, including suspension and debarment; and

(iii) Be ineligible for participation in programs conducted under the authority of the Act.

(End of provision)

#### **52.219-22 SMALL DISADVANTAGED BUSINESS STATUS (OCT 1999)**

(a) General. This provision is used to assess an offeror's small disadvantaged business status for the purpose of obtaining a benefit on this solicitation. Status as a small business and status as a small disadvantaged business for general statistical purposes is covered by the provision at FAR 52.219-1, Small Business Program Representation.

(b) Representations.

(1) General. The offeror represents, as part of its offer, that it is a small business under the size standard applicable to this acquisition; and either--

\_\_\_ (i) It has received certification by the Small Business Administration as a small disadvantaged business concern consistent with 13 CFR 124, Subpart B; and

(A) No material change in disadvantaged ownership and control has occurred since its certification;

(B) Where the concern is owned by one or more disadvantaged individuals, the net worth of each individual upon whom the certification is based does not exceed \$750,000 after taking into account the applicable exclusions set forth at 13 CFR 124.104(c)(2); and

(C) It is identified, on the date of this representation, as a certified small disadvantaged business concern in the database maintained by the Small Business Administration(PROONet); or

\_\_\_ (ii) It has submitted a completed application to the Small Business Administration or a Private Certifier to be certified as a small disadvantaged business concern in accordance with 13 CFR 124, Subpart B, and a decision on that application is pending, and that no material change in disadvantaged ownership and control has occurred since its application was submitted.

(2)\_\_\_ For Joint Ventures. The offeror represents, as part of its offer, that it is a joint venture that complies with the requirements at 13 CFR 124.1002(f) and that the representation in paragraph (b)(1) of this provision is accurate for the

small disadvantaged business concern that is participating in the joint venture. [The offeror shall enter the name of the small disadvantaged business concern that is participating in the joint venture: \_\_\_\_\_.]

(c) Penalties and Remedies. Anyone who misrepresents any aspects of the disadvantaged status of a concern for the purposes of securing a contract or subcontract shall:

- (1) Be punished by imposition of a fine, imprisonment, or both;
- (2) Be subject to administrative remedies, including suspension and debarment; and
- (3) Be ineligible for participation in programs conducted under the authority of the Small Business Act.

(End of provision)

**52.222-22 PREVIOUS CONTRACTS AND COMPLIANCE REPORTS (FEB 1999)**

The offeror represents that --

(a) ( ) It has, ( ) has not participated in a previous contract or subcontract subject to the Equal Opportunity clause of this solicitation;

(b) ( ) It has, ( ) has not, filed all required compliance reports; and

(c) Representations indicating submission of required compliance reports, signed by proposed subcontractors, will be obtained before subcontract awards.

(End of provision)

**52.222-38 COMPLIANCE WITH VETERANS' EMPLOYMENT REPORTING REQUIREMENTS (DEC 2001)**

By submission of its offer, the offeror represents that, if it is subject to the reporting requirements of 38 U.S.C. 4212(d) (i.e., if it has any contract containing Federal Acquisition Regulation clause 52.222-37, Employment Reports on Special Disabled Veterans, Veterans of the Vietnam Era, and Other Eligible Veterans), it has submitted the most recent VETS-100 Report required by that clause.

(End of provision)

**52.223-4 RECOVERED MATERIAL CERTIFICATION (OCT 1997)**

As required by the Resource Conservation and Recovery Act of 1976 (42 U.S.C. 6962(c)(3)(A)(i)), the offeror certifies, by signing this offer, that the percentage of recovered materials to be used in the performance of the contract will be at least the amount required by the applicable contract specifications.

(End of provision)

**52.223-13 CERTIFICATION OF TOXIC CHEMICAL RELEASE REPORTING (AUG 2003)**

(a) Executive Order 13148, of April 21, 2000, Greening the Government through Leadership in Environmental Management, requires submission of this certification as a prerequisite for contract award.

(b) By signing this offer, the offeror certifies that--

(1) As the owner or operator of facilities that will be used in the performance of this contract that are subject to the filing and reporting requirements described in section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA) (42 U.S.C. 11023) and section 6607 of the Pollution Prevention Act of 1990 (PPA) (42 U.S.C. 13106), the offeror will file and continue to file for such facilities for the life of the contract the Toxic Chemical Release Inventory Form (Form R) as described in sections 313(a) and (g) of EPCRA and section 6607 of PPA; or

(2) None of its owned or operated facilities to be used in the performance of this contract is subject to the Form R filing and reporting requirements because each such facility is exempt for at least one of the following reasons: (Check each block that is applicable.)

( ) (i) The facility does not manufacture, process, or otherwise use any toxic chemicals listed in 40 CFR 372.65;

( ) (ii) The facility does not have 10 or more full-time employees as specified in section 313.(b)(1)(A) of EPCRA 42 U.S.C. 11023(b)(1)(A);

( ) (iii) The facility does not meet the reporting thresholds of toxic chemicals established under section 313(f) of EPCRA, 42 U.S.C. 11023(f) (including the alternate thresholds at 40 CFR 372.27, provided an appropriate certification form has been filed with EPA);

( ) (iv) The facility does not fall within the following Standard Industrial Classification (SIC) codes or their corresponding North American Industry Classification System sectors:

(A) Major group code 10 (except 1011, 1081, and 1094.

(B) Major group code 12 (except 1241).

(C) Major group codes 20 through 39.

(D) Industry code 4911, 4931, or 4939 (limited to facilities that combust coal and/or oil for the purpose of generating power for distribution in commerce).

(E) Industry code 4953 (limited to facilities regulated under the Resource Conservation and Recovery Act, Subtitle C (42 U.S.C. 6921, et seq.), 5169, 5171, or 7389 (limited to facilities primarily engaged in solvent recovery services on a contract or fee basis); or

( ) (v) The facility is not located within the United States or its outlying areas.

(End of clause)

**252.209-7001 DISCLOSURE OF OWNERSHIP OR CONTROL BY THE GOVERNMENT OF A TERRORIST COUNTRY (MAR 1998)**

(a) "Definitions."

As used in this provision --

(a) "Government of a terrorist country" includes the state and the government of a terrorist country, as well as any political subdivision, agency, or instrumentality thereof.

(2) "Terrorist country" means a country determined by the Secretary of State, under section 6(j)(1)(A) of the Export Administration Act of 1979 (50 U.S.C. App. 2405(j)(i)(A)), to be a country the government of which has repeatedly provided support for such acts of international terrorism. As of the date of this provision, terrorist countries include: Cuba, Iran, Iraq, Libya, North Korea, Sudan, and Syria.

(3) "Significant interest" means --

(i) Ownership of or beneficial interest in 5 percent or more of the firm's or subsidiary's securities. Beneficial interest includes holding 5 percent or more of any class of the firm's securities in "nominee shares," "street names," or some other method of holding securities that does not disclose the beneficial owner;

(ii) Holding a management position in the firm, such as a director or officer;

(iii) Ability to control or influence the election, appointment, or tenure of directors or officers in the firm;

(iv) Ownership of 10 percent or more of the assets of a firm such as equipment, buildings, real estate, or other tangible assets of the firm; or

(v) Holding 50 percent or more of the indebtedness of a firm.

(b) "Prohibition on award."

In accordance with 10 U.S.C. 2327, no contract may be awarded to a firm or a subsidiary of a firm if the government of a terrorist country has a significant interest in the firm or subsidiary or, in the case of a subsidiary, the firm that owns the subsidiary, unless a waiver is granted by the Secretary of Defense.

(c) "Disclosure."

If the government of a terrorist country has a significant interest in the Offeror or a subsidiary of the Offeror, the Offeror shall disclosure such interest in an attachment to its offer. If the Offeror is a subsidiary, it shall also disclose any significant interest the government of a terrorist country has in any firm that owns or controls the subsidiary. The disclosure shall include --

(1) Identification of each government holding a significant interest; and

(2) A description of the significant interest held by each government.

(End of provision)

**252.225-7031 SECONDARY ARAB BOYCOTT OF ISRAEL (APR 2003)**

(a) Definitions. As used in this provision--

(1) Foreign person means any person (including any individual, partnership, corporation, or other form of association) other than a United States person.

(2) United States person is defined in 50 U.S.C. App. 2415(2) and means--



- (i) Any United States resident or national (other than an individual resident outside the United States who is employed by other than a United States person);
  - (ii) Any domestic concern (including any permanent domestic establishment of any foreign concern); and
  - (iii) Any foreign subsidiary or affiliate (including any permanent foreign establishment) of any domestic concern that is controlled in fact by such domestic concern.
- (b) Certification. If the offeror is a foreign person, the offeror certifies, by submission of an offer, that it--
- (1) Does not comply with the Secondary Arab Boycott of Israel; and
  - (2) Is not taking or knowingly agreeing to take any action, with respect to the Secondary Boycott of Israel by Arab countries, which 50 U.S.C. App. 2407(a) prohibits a United States person from taking.

(End of provision)

**252.247-7022 REPRESENTATION OF EXTENT OF TRANSPORTATION BY SEA (AUG 1992)**

(a) The Offeror shall indicate by checking the appropriate blank in paragraph (b) of this provision whether transportation of supplies by sea is anticipated under the resultant contract. The term supplies is defined in the Transportation of Supplies by Sea clause of this solicitation.

(b) Representation. The Offeror represents that it:

\_\_\_\_ (1) Does anticipate that supplies will be transported by sea in the performance of any contract or subcontract resulting from this solicitation.

\_\_\_\_ (2) Does not anticipate that supplies will be transported by sea in the performance of any contract or subcontract resulting from this solicitation.

(c) Any contract resulting from this solicitation will include the Transportation of Supplies by Sea clause. If the Offeror represents that it will not use ocean transportation, the resulting contract will also include the Defense FAR Supplement clause at 252.247-7024, Notification of Transportation of Supplies by Sea.

(End of provision)

**SECTION 00700 - Contract Clauses****CLAUSES INCORPORATED BY FULL TEXT*****52.202-1 DEFINITIONS (MAY 2001) --ALTERNATE I (MAR 2001)***

(a) Agency head or head of the agency means the Secretary (Attorney General, Administrator, Governor, Chairperson, or other chief official, as appropriate) of the agency, unless otherwise indicated, including any deputy or assistant chief official of the executive agency.

(b) Commercial component means any component that is a commercial item.

(c) Component means any item supplied to the Government as part of an end item or of another component, except that for use in 52.225-9, and 52.225-11 see the definitions in 52.225-9(a) and 52.225-11(a).

(d) Contracting Officer means a person with the authority to enter into, administer, and/or terminate contracts and make related determinations and findings. The term includes certain authorized representatives of the Contracting Officer acting within the limits of their authority as delegated by the Contracting Officer.

(e) Nondevelopmental item means--

(1) Any previously developed item of supply used exclusively for governmental purposes by a Federal agency, a State or local government, or a foreign government with which the United States has a mutual defense cooperation agreement;

(2) Any item described in paragraph (f)(1) of this definition that requires only minor modification or modifications of a type customarily available in the commercial marketplace in order to meet the requirements of the procuring department or agency; or

(3) Any item of supply being produced that does not meet the requirements of paragraph (f)(1) or (f)(2) solely because the item is not yet in use.

(f) "Contracting Officer" means a person with the authority to enter into, administer, and/or terminate contracts and make related determinations and findings. The term includes certain authorized representatives of the Contracting Officer acting within the limits of their authority as delegated by the Contracting Officer.

(g) Except as otherwise provided in this contract, the term "subcontracts" includes, but is not limited to, purchase orders and changes and modifications to purchase orders under this contract.

(End of clause)

***52.202-4001 DEFINITIONS (MAY 1995) EFARS Part 2.101***

"Chief of Contracting Office" means the Chief of the Contracting Division at a District, or the Director of Contracting at a Division, Center, Laboratory, or other support activity.

"Command" means each USACE Division, each USACE District, The U.S. Army Engineering and Support Center (HNC), Transatlantic Programs Center (TAC), Transatlantic Programs Center (Europe) (TAE), Topographic Engineer Center (TEC), Cold Regions Research and Engineering Laboratory (CRREL), Construction Engineering Research

Laboratory (CERL), Humphreys Engineering Center Support Activity (HECSA), and Waterways experiment Station (WES).

"Commander" means the commanding officer of each USACE district and each USACE division, and the director or commander of HNC, TAC, TAE, ETL, CRREL, CERL, HECSA and WES.

"Head of Contracting Activity (HCA)" for USACE means the Chief of Engineers.

Centers. For determining contracting authority levels for this regulation, Centers (HNC, and TAC) will equate to a Division. As a subordinate unit to TAC, TAE's contracting authority will therefore equate to that of a district.

Level higher than the contracting officer. When a District or TAE chief of contracting is the contracting officer, a "level higher than the contracting officer" means the Division or Center Director of Contracting. When an operating Division, Center or Laboratory Director/Chief of Contracting is the contracting officer a "level higher than the contracting officer" means the PARC.

Local Cooperation Agreements (LCAs). See Project Cooperation Agreements.

Project Cooperation Agreements. Formerly referred to as Local Cooperation Agreements, these are agreements under 31 U.S.C. 6305 and 42 U.S.C. 1962d-5b. They are not contracts as defined by the FAR.

"USACE and HQUSACE" means the United States Army Corps of Engineers and its headquarters, respectively.

### **52.203-3 GRATUITIES (APR 1984)**

(a) The right of the Contractor to proceed may be terminated by written notice if, after notice and hearing, the agency head or a designee determines that the Contractor, its agent, or another representative--

(1) Offered or gave a gratuity (e.g., an entertainment or gift) to an officer, official, or employee of the Government; and

(2) Intended, by the gratuity, to obtain a contract or favorable treatment under a contract.

(b) The facts supporting this determination may be reviewed by any court having lawful jurisdiction.

(c) If this contract is terminated under paragraph (a) of this clause, the Government is entitled--

(1) To pursue the same remedies as in a breach of the contract; and

(2) In addition to any other damages provided by law, to exemplary damages of not less than 3 nor more than 10 times the cost incurred by the Contractor in giving gratuities to the person concerned, as determined by the agency head or a designee. (This subparagraph (c)(2) is applicable only if this contract uses money appropriated to the Department of Defense.)

(d) The rights and remedies of the Government provided in this clause shall not be exclusive and are in addition to any other rights and remedies provided by law or under this contract.

(End of clause)

### **52.203-5 COVENANT AGAINST CONTINGENT FEES (APR 1984)**

(a) The Contractor warrants that no person or agency has been employed or retained to solicit or obtain this contract upon an agreement or understanding for a contingent fee, except a bona fide employee or agency. For breach or violation of this warranty, the Government shall have the right to annul this contract without liability or, in its discretion, to deduct from the contract price or consideration, or otherwise recover, the full amount of the contingent fee.

(b) "Bona fide agency," as used in this clause, means an established commercial or selling agency, maintained by a contractor for the purpose of securing business, that neither exerts nor proposes to exert improper influence to solicit or obtain Government contracts nor holds itself out as being able to obtain any Government contract or contracts through improper influence.

"Bona fide employee," as used in this clause, means a person, employed by a contractor and subject to the contractor's supervision and control as to time, place, and manner of performance, who neither exerts nor proposes to exert improper influence to solicit or obtain Government contracts nor holds out as being able to obtain any Government contract or contracts through improper influence.

"Contingent fee," as used in this clause, means any commission, percentage, brokerage, or other fee that is contingent upon the success that a person or concern has in securing a Government contract.

"Improper influence," as used in this clause, means any influence that induces or tends to induce a Government employee or officer to give consideration or to act regarding a Government contract on any basis other than the merits of the matter.

(End of clause)

#### **52.203-7 ANTI-KICKBACK PROCEDURES. (JUL 1995)**

(a) Definitions.

"Kickback," as used in this clause, means any money, fee, commission, credit, gift, gratuity, thing of value, or compensation of any kind which is provided, directly or indirectly, to any prime Contractor, prime Contractor employee, subcontractor, or subcontractor employee for the purpose of improperly obtaining or rewarding favorable treatment in connection with a prime contract or in connection with a subcontract relating to a prime contract.

"Person," as used in this clause, means a corporation, partnership, business association of any kind, trust, joint-stock company, or individual.

"Prime contract," as used in this clause, means a contract or contractual action entered into by the United States for the purpose of obtaining supplies, materials, equipment, or services of any kind.

"Prime Contractor," as used in this clause, means a person who has entered into a prime contract with the United States.

"Prime Contractor employee," as used in this clause, means any officer, partner, employee, or agent of a prime Contractor.

"Subcontract," as used in this clause, means a contract or contractual action entered into by a prime Contractor or subcontractor for the purpose of obtaining supplies, materials, equipment, or services of any kind under a prime contract.

"Subcontractor," as used in this clause, (1) means any person, other than the prime Contractor, who offers to furnish

or furnishes any supplies, materials, equipment, or services of any kind under a prime contract or a subcontract entered into in connection with such prime contract, and (2) includes any person who offers to furnish or furnishes general supplies to the prime Contractor or a higher tier subcontractor.

"Subcontractor employee," as used in this clause, means any officer, partner, employee, or agent of a subcontractor.

(b) The Anti-Kickback Act of 1986 (41 U.S.C. 51-58) (the Act), prohibits any person from -

(1) Providing or attempting to provide or offering to provide any kickback;

(2) Soliciting, accepting, or attempting to accept any kickback; or

(3) Including, directly or indirectly, the amount of any kickback in the contract price charged by a prime Contractor to the United States or in the contract price charged by a subcontractor to a prime Contractor or higher tier subcontractor.

(c)(1) The Contractor shall have in place and follow reasonable procedures designed to prevent and detect possible violations described in paragraph (b) of this clause in its own operations and direct business relationships.

(2) When the Contractor has reasonable grounds to believe that a violation described in paragraph (b) of this clause may have occurred, the Contractor shall promptly report in writing the possible violation. Such reports shall be made to the inspector general of the contracting agency, the head of the contracting agency if the agency does not have an inspector general, or the Department of Justice.

(3) The Contractor shall cooperate fully with any Federal agency investigating a possible violation described in paragraph (b) of this clause.

(4) The Contracting Officer may (i) offset the amount of the kickback against any monies owed by the United States under the prime contract and/or (ii) direct that the Prime Contractor withhold, from sums owed a subcontractor under the prime contract, the amount of any kickback. The Contracting Officer may order the monies withheld under subdivision (c)(4)(ii) of this clause be paid over to the Government unless the Government has already offset those monies under subdivision (c)(4)(i) of this clause. In either case, the Prime Contractor shall notify the Contracting Officer when the monies are withheld.

(5) The Contractor agrees to incorporate the substance of this clause, including this subparagraph (c)(5) but excepting subparagraph (c)(1), in all subcontracts under this contract which exceed \$100,000.

**52.203-8 CANCELLATION, RESCISSION, AND RECOVERY OF FUNDS FOR ILLEGAL OR IMPROPER ACTIVITY (JAN 1997)**

(a) If the Government receives information that a contractor or a person has engaged in conduct constituting a violation of subsection (a), (b), (c), or (d) of Section 27 of the Office of Federal Procurement Policy Act (41 U.S.C. 423) (the Act), as amended by section 4304 of the 1996 National Defense Authorization Act for Fiscal Year 1996 (Pub. L. 104-106), the Government may--

(1) Cancel the solicitation, if the contract has not yet been awarded or issued; or

(2) Rescind the contract with respect to which--

(i) The Contractor or someone acting for the Contractor has been convicted for an offense where the conduct constitutes a violation of subsection 27(a) or (b) of the Act for the purpose of either--

- (A) Exchanging the information covered by such subsections for anything of value; or
- (B) Obtaining or giving anyone a competitive advantage in the award of a Federal agency procurement contract; or
- (ii) The head of the contracting activity has determined, based upon a preponderance of the evidence, that the Contractor or someone acting for the Contractor has engaged in conduct constituting an offense punishable under subsections 27(e)(1) of the Act.
- (b) If the Government rescinds the contract under paragraph (a) of this clause, the Government is entitled to recover, in addition to any penalty prescribed by law, the amount expended under the contract.
- (c) The rights and remedies of the Government specified herein are not exclusive, and are in addition to any other rights and remedies provided by law, regulation, or under this contract.
- (End of clause)

**52.203-10 PRICE OR FEE ADJUSTMENT FOR ILLEGAL OR IMPROPER ACTIVITY (JAN 1997)**

- (a) The Government, at its election, may reduce the price of a fixed-price type contract and the total cost and fee under a cost-type contract by the amount of profit or fee determined as set forth in paragraph (b) of this clause if the head of the contracting activity or designee determines that there was a violation of subsection 27 (a), (b), or (c) of the Office of Federal Procurement Policy Act, as amended (41 U.S.C. 423), as implemented in section 3.104 of the Federal Acquisition Regulation.
- (b) The price or fee reduction referred to in paragraph (a) of this clause shall be--
  - (1) For cost-plus-fixed-fee contracts, the amount of the fee specified in the contract at the time of award;
  - (2) For cost-plus-incentive-fee contracts, the target fee specified in the contract at the time of award, notwithstanding any minimum fee or "fee floor" specified in the contract;
  - (3) For cost-plus-award-fee contracts--
    - (i) The base fee established in the contract at the time of contract award;
    - (ii) If no base fee is specified in the contract, 30 percent of the amount of each award fee otherwise payable to the Contractor for each award fee evaluation period or at each award fee determination point.
  - (4) For fixed-price-incentive contracts, the Government may--
    - (i) Reduce the contract target price and contract target profit both by an amount equal to the initial target profit specified in the contract at the time of contract award; or
    - (ii) If an immediate adjustment to the contract target price and contract target profit would have a significant adverse impact on the incentive price revision relationship under the contract, or adversely affect the contract financing provisions, the Contracting Officer may defer such adjustment until establishment of the total final price of the contract. The total final price established in accordance with the incentive price revision provisions of the contract shall be reduced by an amount equal to the initial target profit specified in the contract at the time of contract award and such reduced price shall be the total final contract price.

(5) For firm-fixed-price contracts, by 10 percent of the initial contract price or a profit amount determined by the Contracting Officer from records or documents in existence prior to the date of the contract award.

(c) The Government may, at its election, reduce a prime contractor's price or fee in accordance with the procedures of paragraph (b) of this clause for violations of the Act by its subcontractors by an amount not to exceed the amount of profit or fee reflected in the subcontract at the time the subcontract was first definitively priced.

(d) In addition to the remedies in paragraphs (a) and (c) of this clause, the Government may terminate this contract for default. The rights and remedies of the Government specified herein are not exclusive, and are in addition to any other rights and remedies provided by law or under this contract.

(End of clause)

**52.203-12 LIMITATION ON PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS (JUN 2003)**

(a) Definitions.

"Agency," as used in this clause, means executive agency as defined in 2.101.

"Covered Federal action," as used in this clause, means any of the following Federal actions:

(1) The awarding of any Federal contract.

(2) The making of any Federal grant.

(3) The making of any Federal loan.

(4) The entering into of any cooperative agreement.

(5) The extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

"Indian tribe" and "tribal organization," as used in this clause, have the meaning provided in section 4 of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450B) and include Alaskan Natives.

"Influencing or attempting to influence," as used in this clause, means making, with the intent to influence, any communication to or appearance before an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with any covered Federal action.

"Local government," as used in this clause, means a unit of government in a State and, if chartered, established, or otherwise recognized by a State for the performance of a governmental duty, including a local public authority, a special district, an intrastate district, a council of governments, a sponsor group representative organization, and any other instrumentality of a local government.

"Officer or employee of an agency," as used in this clause, includes the following individuals who are employed by an agency:

(1) An individual who is appointed to a position in the Government under Title 5, United States Code, including a position under a temporary appointment.

(2) A member of the uniformed services, as defined in subsection 101(3), Title 37, United States Code.

(3) A special Government employee, as defined in section 202, Title 18, United States Code.

(4) An individual who is a member of a Federal advisory committee, as defined by the Federal Advisory Committee Act, Title 5, United States Code, appendix 2.

"Person," as used in this clause, means an individual, corporation, company, association, authority, firm, partnership, society, State, and local government, regardless of whether such entity is operated for profit, or not for profit. This term excludes an Indian tribe, tribal organization, or any other Indian organization with respect to expenditures specifically permitted by other Federal law.

"Reasonable compensation," as used in this clause, means, with respect to a regularly employed officer or employee of any person, compensation that is consistent with the normal compensation for such officer or employee for work that is not furnished to, not funded by, or not furnished in cooperation with the Federal Government.

"Reasonable payment," as used in this clause, means, with respect to professional and other technical services, a payment in an amount that is consistent with the amount normally paid for such services in the private sector.

"Recipient," as used in this clause, includes the Contractor and all subcontractors. This term excludes an Indian tribe, tribal organization, or any other Indian organization with respect to expenditures specifically permitted by other Federal law.

"Regularly employed," as used in this clause, means, with respect to an officer or employee of a person requesting or receiving a Federal contract, an officer or employee who is employed by such person for at least 130 working days within 1 year immediately preceding the date of the submission that initiates agency consideration of such person for receipt of such contract. An officer or employee who is employed by such person for less than 130 working days within 1 year immediately preceding the date of the submission that initiates agency consideration of such person shall be considered to be regularly employed as soon as he or she is employed by such person for 130 working days.

State, as used in this clause, means a State of the United States, the District of Columbia, or an outlying area of the United States, an agency or instrumentality of a State, and multi-State, regional, or interstate entity having governmental duties and powers.

(b) Prohibitions.

(1) Section 1352 of Title 31, United States Code, among other things, prohibits a recipient of a Federal contract, grant, loan, or cooperative agreement from using appropriated funds to pay any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with any of the following covered Federal actions: the awarding of any Federal contract; the making of any Federal grant; the making of any Federal loan; the entering into of any cooperative agreement; or the modification of any Federal contract, grant, loan, or cooperative agreement.

(2) The Act also requires Contractors to furnish a disclosure if any funds other than Federal appropriated funds (including profit or fee received under a covered Federal transaction) have been paid, or will be paid, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with a Federal contract, grant, loan, or cooperative agreement.

(3) The prohibitions of the Act do not apply under the following conditions:

(i) Agency and legislative liaison by own employees.



(A) The prohibition on the use of appropriated funds, in subparagraph (b)(1) of this clause, does not apply in the case of a payment of reasonable compensation made to an officer or employee of a person requesting or receiving a covered Federal action if the payment is for agency and legislative liaison activities not directly related to a covered Federal action.

(B) For purposes of subdivision (b)(3)(i)(A) of this clause, providing any information specifically requested by an agency or Congress is permitted at any time.

(C) The following agency and legislative liaison activities are permitted at any time where they are not related to a specific solicitation for any covered Federal action:

(1) Discussing with an agency the qualities and characteristics (including individual demonstrations) of the person's products or services, conditions or terms of sale, and service capabilities.

(2) Technical discussions and other activities regarding the application or adaptation of the person's products or services for an agency's use.

(D) The following agency and legislative liaison activities are permitted where they are prior to formal solicitation of any covered Federal action--

(1) Providing any information not specifically requested but necessary for an agency to make an informed decision about initiation of a covered Federal action;

(2) Technical discussions regarding the preparation of an unsolicited proposal prior to its official submission; and

(3) Capability presentations by persons seeking awards from an agency pursuant to the provisions of the Small Business Act, as amended by Pub. L. 95-507, and subsequent amendments.

(E) Only those services expressly authorized by subdivision (b)(3)(i)(A) of this clause are permitted under this clause.

(ii) Professional and technical services.

(A) The prohibition on the use of appropriated funds, in subparagraph (b)(1) of this clause, does not apply in the case of--

(1) A payment of reasonable compensation made to an officer or employee of a person requesting or receiving a covered Federal action or an extension, continuation, renewal, amendment, or modification of a covered Federal action, if payment is for professional or technical services rendered directly in the preparation, submission, or negotiation of any bid, proposal, or application for that Federal action or for meeting requirements imposed by or pursuant to law as a condition for receiving that Federal action.

(2) Any reasonable payment to a person, other than an officer or employee of a person requesting or receiving a covered Federal action or an extension, continuation, renewal, amendment, or modification of a covered Federal action if the payment is for professional or technical services rendered directly in the preparation, submission, or negotiation of any bid, proposal, or application for that Federal action or for meeting requirements imposed by or pursuant to law as a condition for receiving that Federal action. Persons other than officers or employees of a person requesting or receiving a covered Federal action include consultants and trade associations.

(B) For purposes of subdivision (b)(3)(ii)(A) of this clause, "professional and technical services" shall be limited to advice and analysis directly applying any professional or technical discipline. For example, drafting of a legal document accompanying a bid or proposal by a lawyer is allowable. Similarly, technical advice provided by an engineer on the performance or operational capability of a piece of equipment rendered directly in the negotiation of a contract is allowable. However, communications with the intent to influence made by a professional (such as a

licensed lawyer) or a technical person (such as a licensed accountant) are not allowable under this section unless they provide advice and analysis directly applying their professional or technical expertise and unless the advice or analysis is rendered directly and solely in the preparation, submission or negotiation of a covered Federal action. Thus, for example, communications with the intent to influence made by a lawyer that do not provide legal advice or analysis directly and solely related to the legal aspects of his or her client's proposal, but generally advocate one proposal over another are not allowable under this section because the lawyer is not providing professional legal services. Similarly, communications with the intent to influence made by an engineer providing an engineering analysis prior to the preparation or submission of a bid or proposal are not allowable under this section since the engineer is providing technical services but not directly in the preparation, submission or negotiation of a covered Federal action.

(C) Requirements imposed by or pursuant to law as a condition for receiving a covered Federal award include those required by law or regulation and any other requirements in the actual award documents.

(D) Only those services expressly authorized by subdivisions (b)(3)(ii)(A)(1) and (2) of this clause are permitted under this clause.

(E) The reporting requirements of FAR 3.803(a) shall not apply with respect to payments of reasonable compensation made to regularly employed officers or employees of a person.

(c) Disclosure.

(1) The Contractor who requests or receives from an agency a Federal contract shall file with that agency a disclosure form, OMB standard form LLL, Disclosure of Lobbying Activities, if such person has made or has agreed to make any payment using nonappropriated funds (to include profits from any covered Federal action), which would be prohibited under subparagraph (b)(1) of this clause, if paid for with appropriated funds.

(2) The Contractor shall file a disclosure form at the end of each calendar quarter in which there occurs any event that materially affects the accuracy of the information contained in any disclosure form previously filed by such person under subparagraph (c)(1) of this clause. An event that materially affects the accuracy of the information reported includes--

(i) A cumulative increase of \$25,000 or more in the amount paid or expected to be paid for influencing or attempting to influence a covered Federal action; or

(ii) A change in the person(s) or individual(s) influencing or attempting to influence a covered Federal action; or

(iii) A change in the officer(s), employee(s), or Member(s) contacted to influence or attempt to influence a covered Federal action.

(3) The Contractor shall require the submittal of a certification, and if required, a disclosure form by any person who requests or receives any subcontract exceeding \$100,000 under the Federal contract.

(4) All subcontractor disclosure forms (but not certifications) shall be forwarded from tier to tier until received by the prime Contractor. The prime Contractor shall submit all disclosures to the Contracting Officer at the end of the calendar quarter in which the disclosure form is submitted by the subcontractor. Each subcontractor certification shall be retained in the subcontract file of the awarding Contractor.

(d) Agreement. The Contractor agrees not to make any payment prohibited by this clause.

(e) Penalties.

(1) Any person who makes an expenditure prohibited under paragraph (a) of this clause or who fails to file or amend the disclosure form to be filed or amended by paragraph (b) of this clause shall be subject to civil penalties as provided for by 31 U.S.C. 1352. An imposition of a civil penalty does not prevent the Government from seeking any other remedy that may be applicable.

(2) Contractors may rely without liability on the representation made by their subcontractors in the certification and disclosure form.

(f) Cost allowability. Nothing in this clause makes allowable or reasonable any costs which would otherwise be unallowable or unreasonable. Conversely, costs made specifically unallowable by the requirements in this clause will not be made allowable under any other provision.

(End of clause)

**52.204-4 PRINTED OR COPIED DOUBLE-SIDED ON RECYCLED PAPER (AUG 2000)**

(a) Definitions. As used in this clause--

“Postconsumer material” means a material or finished product that has served its intended use and has been discarded for disposal or recovery, having completed its life as a consumer item. Postconsumer material is a part of the broader category of “recovered material.” For paper and paper products, postconsumer material means “postconsumer fiber” defined by the U.S. Environmental Protection Agency (EPA) as--

(1) Paper, paperboard, and fibrous materials from retail stores, office buildings, homes, and so forth, after they have passed through their end-usage as a consumer item, including: used corrugated boxes; old newspapers; old magazines; mixed waste paper; tabulating cards; and used cordage; or

(2) All paper, paperboard, and fibrous materials that enter and are collected from municipal solid waste; but not

(3) Fiber derived from printers' over-runs, converters' scrap, and over-issue publications.

“Printed or copied double-sided” means printing or reproducing a document so that information is on both sides of a sheet of paper.

“Recovered material,” for paper and paper products, is defined by EPA in its Comprehensive Procurement Guideline as “recovered fiber” and means the following materials:

(1) Postconsumer fiber; and

(2) Manufacturing wastes such as--

(i) Dry paper and paperboard waste generated after completion of the papermaking process (that is, those manufacturing operations up to and including the cutting and trimming of the paper machine reel into smaller rolls or rough sheets) including: envelope cuttings, bindery trimmings, and other paper and paperboard waste resulting from printing, cutting, forming, and other converting operations; bag, box, and carton manufacturing wastes; and butt rolls, mill wrappers, and rejected unused stock; and

(ii) Repulped finished paper and paperboard from obsolete inventories of paper and paperboard manufacturers, merchants, wholesalers, dealers, printers, converters, or others.

(b) In accordance with Section 101 of Executive Order 13101 of September 14, 1998, Greening the Government through Waste Prevention, Recycling, and Federal Acquisition, the Contractor is encouraged to submit paper documents, such as offers, letters, or reports, that are printed or copied double-sided on recycled paper that meet minimum content standards specified in Section 505 of Executive Order 13101, when not using electronic commerce methods to submit information or data to the Government.

(c) If the Contractor cannot purchase high-speed copier paper, offset paper, forms bond, computer printout paper, carbonless paper, file folders, white wove envelopes, writing and office paper, book paper, cotton fiber paper, and cover stock meeting the 30 percent postconsumer material standard for use in submitting paper documents to the Government, it should use paper containing no less than 20 percent postconsumer material. This lesser standard should be used only when paper meeting the 30 percent postconsumer material standard is not obtainable at a reasonable price or does not meet reasonable performance standards.

(End of clause)

**52.209-6 PROTECTING THE GOVERNMENT'S INTEREST WHEN SUBCONTRACTING WITH CONTRACTORS DEBARRED, SUSPENDED, OR PROPOSED FOR DEBARMENT (JUL 1995)**

(a) The Government suspends or debar Contractors to protect the Government's interests. The Contractor shall not enter into any subcontract in excess of the \$25,000 with a Contractor that is debarred, suspended, or proposed for debarment unless there is a compelling reason to do so.

(b) The Contractor shall require each proposed first-tier subcontractor, whose subcontract will exceed \$25,000, to disclose to the Contractor, in writing, whether as of the time of award of the subcontract, the subcontractor, or its principles, is or is not debarred, suspended, or proposed for debarment by the Federal Government.

(c) A corporate officer or a designee of the Contractor shall notify the Contracting Officer, in writing, before entering into a subcontract with a party that is debarred, suspended, or proposed for debarment (see FAR 9.404 for information on the List of Parties Excluded from Federal Procurement and Nonprocurement Programs). The notice must include the following:

(1) The name of the subcontractor.

(2) The Contractor's knowledge of the reasons for the subcontractor being on the List of Parties Excluded from Federal Procurement and Nonprocurement Programs.

(3) The compelling reason(s) for doing business with the subcontractor notwithstanding its inclusion on the List of Parties Excluded from Federal Procurement and Nonprocurement Programs.

(4) The systems and procedures the Contractor has established to ensure that it is fully protecting the Government's interests when dealing with such subcontractor in view of the specific basis for the party's debarment, suspension, or proposed debarment.

(End of clause)

**52.215-2 AUDIT AND RECORDS--NEGOTIATION (JUN 1999)**

(a) As used in this clause, "records" includes books, documents, accounting procedures and practices, and other data, regardless of type and regardless of whether such items are in written form, in the form of computer data, or in any other form.

(b) Examination of costs. If this is a cost-reimbursement, incentive, time-and-materials, labor-hour, or price redeterminable contract, or any combination of these, the Contractor shall maintain and the Contracting Officer, or an authorized representative of the Contracting Officer, shall have the right to examine and audit all records and other evidence sufficient to reflect properly all costs claimed to have been incurred or anticipated to be incurred directly or indirectly in performance of this contract. This right of examination shall include inspection at all reasonable times of the Contractor's plants, or parts of them, engaged in performing the contract.

(c) Cost or pricing data. If the Contractor has been required to submit cost or pricing data in connection with any pricing action relating to this contract, the Contracting Officer, or an authorized representative of the Contracting Officer, in order to evaluate the accuracy, completeness, and currency of the cost or pricing data, shall have the right to examine and audit all of the Contractor's records, including computations and projections, related to--

- (1) The proposal for the contract, subcontract, or modification;
- (2) The discussions conducted on the proposal(s), including those related to negotiating;
- (3) Pricing of the contract, subcontract, or modification; or
- (4) Performance of the contract, subcontract or modification.

(d) Comptroller General--(1) The Comptroller General of the United States, or an authorized representative, shall have access to and the right to examine any of the Contractor's directly pertinent records involving transactions related to this contract or a subcontract hereunder.

(2) This paragraph may not be construed to require the Contractor or subcontractor to create or maintain any record that the Contractor or subcontractor does not maintain in the ordinary course of business or pursuant to a provision of law.

(e) Reports. If the Contractor is required to furnish cost, funding, or performance reports, the Contracting Officer or an authorized representative of the Contracting Officer shall have the right to examine and audit the supporting records and materials, for the purpose of evaluating (1) the effectiveness of the Contractor's policies and procedures to produce data compatible with the objectives of these reports and (2) the data reported.

(f) Availability. The Contractor shall make available at its office at all reasonable times the records, materials, and other evidence described in paragraphs (a), (b), (c), (d), and (e) of this clause, for examination, audit, or reproduction, until 3 years after final payment under this contract or for any shorter period specified in Subpart 4.7, Contractor Records Retention, of the Federal Acquisition Regulation (FAR), or for any longer period required by statute or by other clauses of this contract. In addition--

- (1) If this contract is completely or partially terminated, the Contractor shall make available the records relating to the work terminated until 3 years after any resulting final termination settlement; and
- (2) The Contractor shall make available records relating to appeals under the Disputes clause or to litigation or the settlement of claims arising under or relating to this contract until such appeals, litigation, or claims are finally resolved.

(g) The Contractor shall insert a clause containing all the terms of this clause, including this paragraph (g), in all subcontracts under this contract that exceed the simplified acquisition threshold, and--

- (1) That are cost-reimbursement, incentive, time-and-materials, labor-hour, or price-redeterminable type or any combination of these;

(2) For which cost or pricing data are required; or

(3) That require the subcontractor to furnish reports as discussed in paragraph (e) of this clause.

The clause may be altered only as necessary to identify properly the contracting parties and the Contracting Officer under the Government prime contract.

(End of clause)

**52.219-4 NOTICE OF PRICE EVALUATION PREFERENCE FOR HUBZONE SMALL BUSINESS CONCERNS (JAN 1999)**

(a) Definition. HUBZone small business concern, as used in this clause, means a small business concern that appears on the List of Qualified HUBZone Small Business Concerns maintained by the Small Business Administration.

(b) Evaluation preference. (1) Offers will be evaluated by adding a factor of 10 percent to the price of all offers, except-

(i) Offers from HUBZone small business concerns that have not waived the evaluation preference;

(ii) Otherwise successful offers from small business concerns;

(iii) Otherwise successful offers of eligible products under the Trade Agreements Act when the dollar threshold for application of the Act is exceeded (see 25.402 of the Federal Acquisition Regulation (FAR)); and

(iv) Otherwise successful offers where application of the factor would be inconsistent with a Memorandum of Understanding or other international agreement with a foreign government.

(2) The factor of 10 percent shall be applied on a line item basis or to any group of items on which award may be made. Other evaluation factors described in the solicitation shall be applied before application of the factor.

(3) A concern that is both a HUBZone small business concern and a small disadvantaged business concern will receive the benefit of both the HUBZone small business price evaluation preference and the small disadvantaged business price evaluation adjustment (see FAR clause 52.219-23). Each applicable price evaluation preference or adjustment shall be calculated independently against an offeror's base offer.

These individual preference amounts shall be added together to arrive at the total evaluated price for that offer.

(c) Waiver of evaluation preference. A HUBZone small business concern may elect to waive the evaluation preference, in which case the factor will be added to its offer for evaluation purposes. The agreements in paragraph (d) of this clause do not apply if the offeror has waived the evaluation preference.

\_\_\_ Offeror elects to waive the evaluation preference.

(d) Agreement. A HUBZone small business concern agrees that in the performance of the contract, in the case of a contract for

(1) Services (except construction), at least 50 percent of the cost of personnel for contract performance will be spent for employees of the concern or employees of other HUBZone small business concerns;

(2) Supplies (other than procurement from a nonmanufacturer of such supplies), at least 50 percent of the cost of manufacturing, excluding the cost of materials, will be performed by the concern or other HUBZone small business concerns;

(3) General construction, at least 15 percent of the cost of the contract performance incurred for personnel will be spent on the concern's employees or the employees of other HUBZone small business concerns; or

(4) Construction by special trade contractors, at least 25 percent of the cost of the contract performance incurred for personnel will be spent on the concern's employees or the employees of other HUBZone small business concerns.

(e) A HUBZone joint venture agrees that in the performance of the contract, the applicable percentage specified in paragraph (d) of this clause will be performed by the HUBZone small business participant or participants.

(f) A HUBZone small business concern nonmanufacturer agrees to furnish in performing this contract only end items manufactured or produced by HUBZone small business manufacturer concerns. This paragraph does not apply in connection with construction or service contracts.

(End of clause)

#### **52.219-8 UTILIZATION OF SMALL BUSINESS CONCERNS (OCT 2000)**

(a) It is the policy of the United States that small business concerns, veteran-owned small business concerns, service-disabled veteran-owned small business concerns, HUBZone small business concerns, small disadvantaged business concerns, and women-owned small business concerns shall have the maximum practicable opportunity to participate in performing contracts let by any Federal agency, including contracts and subcontracts for subsystems, assemblies, components, and related services for major systems. It is further the policy of the United States that its prime contractors establish procedures to ensure the timely payment of amounts due pursuant to the terms of their subcontracts with small business concerns, veteran-owned small business concerns, service-disabled veteran-owned small business concerns, HUBZone small business concerns, small disadvantaged business concerns, and women-owned small business concerns.

(b) The Contractor hereby agrees to carry out this policy in the awarding of subcontracts to the fullest extent consistent with efficient contract performance. The Contractor further agrees to cooperate in any studies or surveys as may be conducted by the United States Small Business Administration or the awarding agency of the United States as may be necessary to determine the extent of the Contractor's compliance with this clause.

Definitions. As used in this contract--

HUBZone small business concern means a small business concern that appears on the List of Qualified HUBZone Small Business Concerns maintained by the Small Business Administration.

Service-disabled veteran-owned small business concern--

(1) Means a small business concern--

(i) Not less than 51 percent of which is owned by one or more service-disabled veterans or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more service-disabled veterans; and

(ii) The management and daily business operations of which are controlled by one or more service-disabled veterans or, in the case of a veteran with permanent and severe disability, the spouse or permanent caregiver of such veteran.

(2) Service-disabled veteran means a veteran, as defined in 38 U.S.C. 101(2), with a disability that is service-connected, as defined in 38 U.S.C. 101(16).

Small business concern means a small business as defined pursuant to Section 3 of the Small Business Act and relevant regulations promulgated pursuant thereto.

Small disadvantaged business concern means a small business concern that represents, as part of its offer that--

(1) It has received certification as a small disadvantaged business concern consistent with 13 CFR part 124, subpart B;

(2) No material change in disadvantaged ownership and control has occurred since its certification;

(3) Where the concern is owned by one or more individuals, the net worth of each individual upon whom the certification is based does not exceed \$750,000 after taking into account the applicable exclusions set forth at 13 CFR 124.104(c)(2); and

(4) It is identified, on the date of its representation, as a certified small disadvantaged business in the database maintained by the Small Business Administration (PRO-Net).

Veteran-owned small business concern means a small business concern--

(1) Not less than 51 percent of which is owned by one or more veterans (as defined at 38 U.S.C. 101(2)) or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more veterans; and

(2) The management and daily business operations of which are controlled by one or more veterans.

Women-owned small business concern means a small business concern--

(1) That is at least 51 percent owned by one or more women, or, in the case of any publicly owned business, at least 51 percent of the stock of which is owned by one or more women; and

(2) Whose management and daily business operations are controlled by one or more women.

(d) Contractors acting in good faith may rely on written representations by their subcontractors regarding their status as a small business concern, a veteran-owned small business concern, a service-disabled veteran-owned small business concern, a HUBZone small business concern, a small disadvantaged business concern, or a women-owned small business concern.

(End of clause)

#### **52.219-9 SMALL BUSINESS SUBCONTRACTING PLAN (JAN 2002)**

(a) This clause does not apply to small business concerns.

(b) Definitions. As used in this clause--

Commercial item means a product or service that satisfies the definition of commercial item in section 2.101 of the Federal Acquisition Regulation.



Commercial plan means a subcontracting plan (including goals) that covers the offeror's fiscal year and that applies to the entire production of commercial items sold by either the entire company or a portion thereof (e.g., division, plant, or product line).

Individual contract plan means a subcontracting plan that covers the entire contract period (including option periods), applies to a specific contract, and has goals that are based on the offeror's planned subcontracting in support of the specific contract, except that indirect costs incurred for common or joint purposes may be allocated on a prorated basis to the contract.

Master plan means a subcontracting plan that contains all the required elements of an individual contract plan, except goals, and may be incorporated into individual contract plans, provided the master plan has been approved.

Subcontract means any agreement (other than one involving an employer-employee relationship) entered into by a Federal Government prime Contractor or subcontractor calling for supplies or services required for performance of the contract or subcontract.

(c) The offeror, upon request by the Contracting Officer, shall submit and negotiate a subcontracting plan, where applicable, that separately addresses subcontracting with small business, veteran-owned small business, HUBZone small business concerns, small disadvantaged business, and women-owned small business concerns. If the offeror is submitting an individual contract plan, the plan must separately address subcontracting with small business, veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns, with a separate part for the basic contract and separate parts for each option (if any). The plan shall be included in and made a part of the resultant contract. The subcontracting plan shall be negotiated within the time specified by the Contracting Officer. Failure to submit and negotiate the subcontracting plan shall make the offeror ineligible for award of a contract.

(d) The offeror's subcontracting plan shall include the following:

(1) Goals, expressed in terms of percentages of total planned subcontracting dollars, for the use of small business, veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns as subcontractors. The offeror shall include all subcontracts that contribute to contract performance, and may include a proportionate share of products and services that are normally allocated as indirect costs.

(2) A statement of--

(i) Total dollars planned to be subcontracted for an individual contract plan; or the offeror's total projected sales, expressed in dollars, and the total value of projected subcontracts to support the sales for a commercial plan;

(ii) Total dollars planned to be subcontracted to small business concerns;

(iii) Total dollars planned to be subcontracted to veteran-owned small business concerns;

(iv) Total dollars planned to be subcontracted to HUBZone small business concerns;

(v) Total dollars planned to be subcontracted to small disadvantaged business concerns; and

(vi) Total dollars planned to be subcontracted to women-owned small business concerns.

(3) A description of the principal types of supplies and services to be subcontracted, and an identification of the types planned for subcontracting to--

- (i) Small business concerns;
- (ii) Veteran-owned small business concerns;
- (iii) HUBZone small business concerns;
- (iv) Small disadvantaged business concerns; and
- (v) Women-owned small business concerns.

(4) A description of the method used to develop the subcontracting goals in paragraph (d)(1) of this clause.

(5) A description of the method used to identify potential sources for solicitation purposes (e.g., existing company source lists, the Procurement Marketing and Access Network (PRO-Net) of the Small Business Administration (SBA), veterans service organizations, the National Minority Purchasing Council Vendor Information Service, the Research and Information Division of the Minority Business Development Agency in the Department of Commerce, or small, HUBZone, small disadvantaged, and women-owned small business trade associations). A firm may rely on the information contained in PRO-Net as an accurate representation of a concern's size and ownership characteristics for the purposes of maintaining a small, veteran-owned small, HUBZone small, small disadvantaged, and women-owned small business source list. Use of PRO-Net as its source list does not relieve a firm of its responsibilities (e.g., outreach, assistance, counseling, or publicizing subcontracting opportunities) in this clause.

(6) A statement as to whether or not the offeror included indirect costs in establishing subcontracting goals, and a description of the method used to determine the proportionate share of indirect costs to be incurred with—

- (i) Small business concerns;
- (ii) Veteran-owned small business concerns;
- (iii) HUBZone small business concerns;
- (iv) Small disadvantaged business concerns; and
- (v) Women-owned small business concerns.

(7) The name of the individual employed by the offeror who will administer the offeror's subcontracting program, and a description of the duties of the individual.

(8) A description of the efforts the offeror will make to assure that small business, veteran-owned small business, HUBZone small business, small disadvantaged business and women-owned small business concerns have an equitable opportunity to compete for subcontracts.

(9) Assurances that the offeror will include the clause of this contract entitled "Utilization of Small Business Concerns" in all subcontracts that offer further subcontracting opportunities, and that the offeror will require all subcontractors (except small business concerns) that receive subcontracts in excess of \$500,000 (\$1,000,000 for construction of any public facility) to adopt a subcontracting plan that complies with the requirements of this clause.

(10) Assurances that the offeror will--

- (i) Cooperate in any studies or surveys as may be required;
- (ii) Submit periodic reports so that the Government can determine the extent of compliance by the offeror with the subcontracting plan;

(iii) Submit Standard Form (SF) 294, Subcontracting Report for Individual Contracts, and/or SF 295, Summary Subcontract Report, in accordance with paragraph (j) of this clause. The reports shall provide information on subcontract awards to small business concerns, veteran-owned small business concerns, service-disabled veteran-owned small business concerns, small disadvantaged business concerns, women-owned small business concerns, and Historically Black Colleges and Universities and Minority Institutions. Reporting shall be in accordance with the instructions on the forms or as provided in agency regulations.

(iv) Ensure that its subcontractors agree to submit SF 294 and SF 295.

(11) A description of the types of records that will be maintained concerning procedures that have been adopted to comply with the requirements and goals in the plan, including establishing source lists; and a description of the offeror's efforts to locate small business, veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns and award subcontracts to them. The records shall include at least the following (on a plant-wide or company-wide basis, unless otherwise indicated)

(i) Source lists (e.g., PRO-Net), guides, and other data that identify small business, veteran-owner small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns.

(ii) Organizations contacted in an attempt to locate sources that are small business, veteran-owned small business, HUBZone small business, small disadvantaged business, or women-owned small business concerns.

(iii) Records on each subcontract solicitation resulting in an award of more than \$100,000, indicating--

(A) Whether small business concerns were solicited and, if not, why not;

(B) Whether veteran-owned small business concerns were solicited and, if not, why not;

(C) Whether HUBZone small business concerns were solicited and, if not, why not;

(D) Whether small disadvantaged business concerns were solicited and, if not, why not;

(E) Whether women-owned small business concerns were solicited and, if not, why not; and

(F) If applicable, the reason award was not made to a small business concern.

(iv) Records of any outreach efforts to contact--

(A) Trade associations;

(B) Business development organizations;

(C) Conferences and trade fairs to locate small, HUBZone small, small disadvantaged, and women-owned small business sources; and

(D) Veterans service organizations.

(v) Records of internal guidance and encouragement provided to buyers through--

(A) Workshops, seminars, training, etc.; and

(B) Monitoring performance to evaluate compliance with the program's requirements.

(vi) On a contract-by-contract basis, records to support award data submitted by the offeror to the Government, including the name, address, and business size of each subcontractor. Contractors having commercial plans need not comply with this requirement.

(e) In order to effectively implement this plan to the extent consistent with efficient contract performance, the Contractor shall perform the following functions:

(1) Assist small business, veteran-owner small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns by arranging solicitations, time for the preparation of bids, quantities, specifications, and delivery schedules so as to facilitate the participation by such concerns. Where the Contractor's lists of potential small business, veteran-owner small business, HUBZone small business, small disadvantaged business, and women-owned small business subcontractors are excessively long, reasonable effort shall be made to give all such small business concerns an opportunity to compete over a period of time.

(2) Provide adequate and timely consideration of the potentialities of small business, veteran-owner small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns in all "make-or-buy" decisions.

(3) Counsel and discuss subcontracting opportunities with representatives of small business, veteran-owner small business, HUBZone small business, small disadvantaged business, and women-owned small business firms.

(4) Provide notice to subcontractors concerning penalties and remedies for misrepresentations of business status as small, veteran-owner small business, HUBZone small, small disadvantaged, or women-owned small business for the purpose of obtaining a subcontract that is to be included as part or all of a goal contained in the Contractor's subcontracting plan.

(f) A master plan on a plant or division-wide basis that contains all the elements required by paragraph (d) of this clause, except goals, may be incorporated by reference as a part of the subcontracting plan required of the offeror by this clause; provided--

(1) the master plan has been approved, (2) the offeror ensures that the master plan is updated as necessary and provides copies of the approved master plan, including evidence of its approval, to the Contracting Officer, and (3) goals and any deviations from the master plan deemed necessary by the Contracting Officer to satisfy the requirements of this contract are set forth in the individual subcontracting plan.

(g) A commercial plan is the preferred type of subcontracting plan for contractors furnishing commercial items. The commercial plan shall relate to the offeror's planned subcontracting generally, for both commercial and Government business, rather than solely to the Government contract. Commercial plans are also preferred for subcontractors that provide commercial items under a prime contract, whether or not the prime contractor is supplying a commercial item.

(h) Prior compliance of the offeror with other such subcontracting plans under previous contracts will be considered by the Contracting Officer in determining the responsibility of the offeror for award of the contract.

(i) The failure of the Contractor or subcontractor to comply in good faith with (1) the clause of this contract entitled "Utilization Of Small Business Concerns," or (2) an approved plan required by this clause, shall be a material breach of the contract.

(j) The Contractor shall submit the following reports:

(1) Standard Form 294, Subcontracting Report for Individual Contracts. This report shall be submitted to the Contracting Officer semiannually and at contract completion. The report covers subcontract award data related to this contract. This report is not required for commercial plans.

(2) Standard Form 295, Summary Subcontract Report. This report encompasses all of the contracts with the awarding agency. It must be submitted semi-annually for contracts with the Department of Defense and annually for contracts with civilian agencies. If the reporting activity is covered by a commercial plan, the reporting activity must report annually all subcontract awards under that plan. All reports submitted at the close of each fiscal year (both individual and commercial plans) shall include a breakout, in the Contractor's format, of subcontract awards, in whole dollars, to small disadvantaged business concerns by North American Industry Classification System (NAICS) Industry Subsector. For a commercial plan, the Contractor may obtain from each of its subcontractors a predominant NAICS Industry Subsector and report all awards to that subcontractor under its predominant NAICS Industry Subsector.

(End of clause)

**52.219-16 LIQUIDATED DAMAGES-SUBCONTRACTING PLAN (JAN 1999)**

(a) Failure to make a good faith effort to comply with the subcontracting plan, as used in this clause, means a willful or intentional failure to perform in accordance with the requirements of the subcontracting plan approved under the clause in this contract entitled "Small Business Subcontracting Plan," or willful or intentional action to frustrate the plan.

(b) Performance shall be measured by applying the percentage goals to the total actual subcontracting dollars or, if a commercial plan is involved, to the pro rata share of actual subcontracting dollars attributable to Government contracts covered by the commercial plan. If, at contract completion or, in the case of a commercial plan, at the close of the fiscal year for which the plan is applicable, the Contractor has failed to meet its subcontracting goals and the Contracting Officer decides in accordance with paragraph (c) of this clause that the Contractor failed to make a good faith effort to comply with its subcontracting plan, established in accordance with the clause in this contract entitled "Small Business Subcontracting Plan," the Contractor shall pay the Government liquidated damages in an amount stated. The amount of probable damages attributable to the Contractor's failure to comply shall be an amount equal to the actual dollar amount by which the Contractor failed to achieve each subcontract goal.

(c) Before the Contracting Officer makes a final decision that the Contractor has failed to make such good faith effort, the Contracting Officer shall give the Contractor written notice specifying the failure and permitting the Contractor to demonstrate what good faith efforts have been made and to discuss the matter. Failure to respond to the notice may be taken as an admission that no valid explanation exists. If, after consideration of all the pertinent data, the Contracting Officer finds that the Contractor failed to make a good faith effort to comply with the subcontracting plan, the Contracting Officer shall issue a final decision to that effect and require that the Contractor pay the Government liquidated damages as provided in paragraph (b) of this clause.

(d) With respect to commercial plans, the Contracting Officer who approved the plan will perform the functions of the Contracting Officer under this clause on behalf of all agencies with contracts covered by the commercial plan.

(e) The Contractor shall have the right of appeal, under the clause in this contract entitled Disputes, from any final decision of the Contracting Officer.

(f) Liquidated damages shall be in addition to any other remedies that the Government may have.

(End of clause)

**52.222-1 NOTICE TO THE GOVERNMENT OF LABOR DISPUTES (FEB 1997)**

If the Contractor has knowledge that any actual or potential labor dispute is delaying or threatens to delay the timely performance of this contract, the Contractor shall immediately give notice, including all relevant information, to the

Contracting Officer.

(End of clause)

**52.222-3 CONVICT LABOR (JUN 2003)**

(a) Except as provided in paragraph (b) of this clause, the Contractor shall not employ in the performance of this contract any person undergoing a sentence of imprisonment imposed by any court of a State, the District of Columbia, Puerto Rico, the Northern Mariana Islands, American Samoa, Guam, or the U.S. Virgin Islands.

(b) The Contractor is not prohibited from employing persons--

(1) On parole or probation to work at paid employment during the term of their sentence;

(2) Who have been pardoned or who have served their terms; or

(3) Confined for violation of the laws of any of the States, the District of Columbia, Puerto Rico, the Northern Mariana Islands, American Samoa, Guam, or the U.S. Virgin Islands who are authorized to work at paid employment in the community under the laws of such jurisdiction, if--

(i) The worker is paid or is in an approved work training program on a voluntary basis;

(ii) Representatives of local union central bodies or similar labor union organizations have been consulted;

(iii) Such paid employment will not result in the displacement of employed workers, or be applied in skills, crafts, or trades in which there is a surplus of available gainful labor in the locality, or impair existing contracts for services;

(iv) The rates of pay and other conditions of employment will not be less than those paid or provided for work of a similar nature in the locality in which the work is being performed; and

(v) The Attorney General of the United States has certified that the work-release laws or **regulations** of the jurisdiction involved are in conformity with the requirements of Executive Order 11755, as amended by Executive Orders 12608 and 12943.

(End of clause)

**52.222-4 CONTRACT WORK HOURS AND SAFETY STANDARDS ACT - OVERTIME COMPENSATION. (SEP 2000)**

(a) Overtime requirements. No Contractor or subcontractor employing laborers or mechanics (see Federal Acquisition Regulation 22.300) shall require or permit them to work over 40 hours in any workweek unless they are paid at least 1 and 1/2 times the basic rate of pay for each hour worked over 40 hours.

(b) Violation; liability for unpaid wages; liquidated damages. The responsible Contractor and subcontractor are liable for unpaid wages if they violate the terms in paragraph (a) of this clause. In addition, the Contractor and subcontractor are liable for liquidated damages payable to the Government. The Contracting Officer will assess liquidated damages at the rate of \$10 per affected employee for each calendar day on which the employer required or permitted the employee to work in excess of the standard workweek of 40 hours without paying overtime wages required by the Contract Work Hours and Safety Standards Act.

(c) Withholding for unpaid wages and liquidated damages. The Contracting Officer will withhold from payments due under the contract sufficient funds required to satisfy any Contractor or subcontractor liabilities for unpaid wages and liquidated damages. If amounts withheld under the contract are insufficient to satisfy Contractor or subcontractor liabilities, the Contracting Officer will withhold payments from other Federal or Federally assisted contracts held by the same Contractor that are subject to the Contract Work Hours and Safety Standards Act.

(d) Payrolls and basic records.

(1) The Contractor and its subcontractors shall maintain payrolls and basic payroll records for all laborers and mechanics working on the contract during the contract and shall make them available to the Government until 3 years after contract completion. The records shall contain the name and address of each employee, social security number, labor classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid. The records need not duplicate those required for construction work by Department of Labor regulations at 29 CFR 5.5(a)(3) implementing the Davis-Bacon Act.

(2) The Contractor and its subcontractors shall allow authorized representatives of the Contracting Officer or the Department of Labor to inspect, copy, or transcribe records maintained under paragraph (d)(1) of this clause. The Contractor or subcontractor also shall allow authorized representatives of the Contracting Officer or Department of Labor to interview employees in the workplace during working hours.

(e) Subcontracts. The Contractor shall insert the provisions set forth in paragraphs (a) through (d) of this clause in subcontracts exceeding \$100,000 and require subcontractors to include these provisions in any lower tier subcontracts. The Contractor shall be responsible for compliance by any subcontractor or lower-tier subcontractor with the provisions set forth in paragraphs (a) through (d) of this clause.

(End of clause)

#### **52.222-6 DAVIS-BACON ACT (FEB 1995)**

(a) All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR Part 3), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the Contractor and such laborers and mechanics. Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (d) of this clause; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such period. Such laborers and mechanics shall be paid not less than the appropriate wage rate and fringe benefits in the wage determination for the classification of work actually performed, without regard to skill, except as provided in the clause entitled Apprentices and Trainees. Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein; provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classifications and wage rates conformed under paragraph (b) of this clause) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the Contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

(b)(1) The Contracting Officer shall require that any class of laborers or mechanics which is not listed in the wage

determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The Contracting Officer shall approve an additional classification and wage rate and fringe benefits therefor only when all the following criteria have been met:

- (i) The work to be performed by the classification requested is not performed by a classification in the wage determination.
  - (ii) The classification is utilized in the area by the construction industry.
  - (iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.
- (2) If the Contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the Contracting Officer agree on the classification and wage rate (including the amount designated for fringe benefits, where appropriate), a report of the action taken shall be sent by the Contracting Officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator or an authorized representative will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the Contracting Officer or will notify the Contracting Officer within the 30-day period that additional time is necessary.
- (3) In the event the Contractor, the laborers or mechanics to be employed in the classification, or their representatives, and the Contracting Officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the Contracting Officer shall refer the questions, including the views of all interested parties and the recommendation of the Contracting Officer, to the Administrator of the Wage and Hour Division for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the Contracting Officer or will notify the Contracting Officer within the 30-day period that additional time is necessary.
- (4) The wage rate (including fringe benefits, where appropriate) determined pursuant to subparagraphs (b)(2) and (b)(3) of this clause shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.
- (c) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the Contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.
- (d) If the Contractor does not make payments to a trustee or other third person, the Contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program; provided, That the Secretary of Labor has found, upon the written request of the Contractor, that the applicable standards of the Davis -Bacon Act have been met. The Secretary of Labor may require the Contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

(End of clause)

#### **52.222-7 WITHHOLDING OF FUNDS (FEB 1988)**

The Contracting Officer shall, upon his or her own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the Contractor under this contract or any other Federal contract with the same Prime Contractor, or any other Federally assisted contract subject to Davis -Bacon prevailing wage requirements, which is held by the same Prime Contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and



helpers, employed by the Contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the Contracting Officer may, after written notice to the Contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

(End of clause)

**52.222-8 PAYROLLS AND BASIC RECORDS (FEB 1988)**

(a) Payrolls and basic records relating thereto shall be maintained by the Contractor during the course of the work and preserved for a period of 3 years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made, and actual wages paid. Whenever the Secretary of Labor has found, under paragraph (d) of the clause entitled Davis-Bacon Act, that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the Contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(b)(1) The Contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the Contracting Officer. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under paragraph (a) of this clause. This information may be submitted in any form desired. Optional Form WH-347 (Federal Stock Number 029-005-00014-1) is available for this purpose and may be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. The Prime Contractor is responsible for the submission of copies of payrolls by all subcontractors.

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the Contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify--

(i) That the payroll for the payroll period contains the information required to be maintained under paragraph (a) of this clause and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in the Regulations, 29 CFR Part 3; and

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by subparagraph (b)(2) of this

clause.

(4) The falsification of any of the certifications in this clause may subject the Contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 3729 of Title 31 of the United States Code.

(c) The Contractor or subcontractor shall make the records required under paragraph (a) of this clause available for inspection, copying, or transcription by the Contracting Officer or authorized representatives of the Contracting Officer or the Department of Labor. The Contractor or subcontractor shall permit the Contracting Officer or representatives of the Contracting Officer or the Department of Labor to interview employees during working hours on the job. If the Contractor or subcontractor fails to submit required records or to make them available, the Contracting Officer may, after written notice to the Contractor, take such action as may be necessary to cause the suspension of any further payment. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

(End of clause)

#### **52.222-9 APPRENTICES AND TRAINEES (FEB 1988)**

(a) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State Apprenticeship Agency recognized by the Bureau, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the Contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated in this paragraph, shall be paid not less than the applicable wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the Contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Bureau of Apprenticeship and Training, or a State Apprenticeship Agency recognized by the Bureau, withdraws approval of an apprenticeship program, the Contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(b) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with

the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed in the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate in the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate in the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate in the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the Contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(c) Equal employment opportunity. The utilization of apprentices, trainees, and journeymen under this clause shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.

(End of clause)

#### **52.222-10 COMPLIANCE WITH COPELAND ACT REQUIREMENTS (FEB 1988)**

The Contractor shall comply with the requirements of 29 CFR Part 3, which are hereby incorporated by reference in this contract.

(End of clause)

#### **52.222-11 SUBCONTRACTS (LABOR STANDARDS (FEB 1988)**

(a) The Contractor or subcontractor shall insert in any subcontracts the clauses entitled Davis-Bacon Act, Contract Work Hours and Safety Standards Act-Overtime Compensation, Apprentices and Trainees, Payrolls and Basic Records, Compliance with Copeland Act Requirements, Withholding of Funds, Subcontracts (Labor Standards), Contract Termination-Debarment, Disputes Concerning Labor Standards, Compliance with Davis-Bacon and Related Act Regulations, and Certification of Eligibility, and such other clauses as the Contracting Officer may, by appropriate instructions, require, and also a clause requiring subcontractors to include these clauses in any lower tier subcontracts. The Prime Contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with all the contract clauses cited in this paragraph.

(b)(1) Within 14 days after award of the contract, the Contractor shall deliver to the Contracting Officer a completed Statement and Acknowledgment Form (SF 1413) for each subcontract, including the subcontractor's signed and dated acknowledgment that the clauses set forth in paragraph (a) of this clause have been included in the subcontract.

(2) Within 14 days after the award of any subsequently awarded subcontract the Contractor shall deliver to the Contracting Officer an updated completed SF 1413 for such additional subcontract.

(End of clause)

#### **52.222-12 CONTRACT TERMINATION--DEBARMENT (FEB 1988)**

A breach of the contract clauses entitled Davis-Bacon Act, Contract Work Hours and Safety Standards Act--

Overtime Compensation, Apprentices and Trainees, Payrolls and Basic Records, Compliance with Copeland Act Requirements, Subcontracts (Labor Standards), Compliance with Davis -Bacon and Related Act Regulations, or Certification of Eligibility may be grounds for termination of the contract, and for debarment as a Contractor and subcontractor as provided in 29 CFR 5.12.

(End of clause)

**52.222-13 COMPLIANCE WITH DAVIS-BACON AND RELATED ACT REGULATIONS (FEB 1988)**

All rulings and interpretations of the Davis -Bacon and Related Acts contained in 29 CFR Parts 1, 3, and 5 are hereby incorporated by reference in this contract.

(End of clause)

**52.222-14 DISPUTES CONCERNING LABOR STANDARDS (FEB 1988)**

The United States Department of Labor has set forth in 29 CFR Parts 5, 6, and 7 procedures for resolving disputes concerning labor standards requirements. Such disputes shall be resolved in accordance with those procedures and not the Disputes clause of this contract. Disputes within the meaning of this clause include disputes between the Contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

(End of clause)

**52.222-15 CERTIFICATION OF ELIGIBILITY (FEB 1988)**

(a) By entering into this contract, the Contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the Contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis -Bacon Act or 29 CFR 5.12(a)(1).

(b) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis -Bacon Act or 29 CFR 5.12(a)(1).

(c) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

(End of clause)

**52.222-21 PROHIBITION OF SEGREGATED FACILITIES (FEB 1999)**

(a) Segregated facilities, as used in this clause, means any waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees, that are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, sex, or national origin because of written or oral policies or employee custom. The term does not include separate or single-user rest rooms or necessary dressing or sleeping areas provided to assure privacy between the sexes.

(b) The Contractor agrees that it does not and will not maintain or provide for its employees any segregated facilities at any of its establishments, and that it does not and will not permit its employees to perform their services at any location under its control where segregated facilities are maintained. The Contractor agrees that a breach of this clause is a violation of the Equal Opportunity clause in this contract.

(c) The Contractor shall include this clause in every subcontract and purchase order that is subject to the Equal Opportunity clause of this contract.

(End of clause)

**52.222-23 NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY FOR CONSTRUCTION (FEB 1999)**

(a) The offeror's attention is called to the Equal Opportunity clause and the Affirmative Action Compliance Requirements for Construction clause of this solicitation.

(b) The goals for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

Goals for minority participation for each trade	Goals for female participation for each trade
2.9% Dakota	6.9%
0.6% Winona	6.9%

These goals are applicable to all the Contractor's construction work performed in the covered area. If the Contractor performs construction work in a geographical area located outside of the covered area, the Contractor shall apply the goals established for the geographical area where the work is actually performed. Goals are published periodically in the Federal Register in notice form, and these notices may be obtained from any Office of Federal Contract Compliance Programs office.

(c) The Contractor's compliance with Executive Order 11246, as amended, and the regulations in 41 CFR 60-4 shall be based on (1) its implementation of the Equal Opportunity clause, (2) specific affirmative action obligations required by the clause entitled "Affirmative Action Compliance Requirements for Construction," and (3) its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade. The Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor, or from project to project, for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, Executive Order 11246, as amended, and the regulations in 41 CFR 60-4. Compliance with the goals will be measured against the total work hours performed.

(d) The Contractor shall provide written notification to the Deputy Assistant Secretary for Federal Contract Compliance, U.S. Department of Labor, within 10 working days following award of any construction subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the --

(1) Name, address, and telephone number of the subcontractor;

(2) Employer's identification number of the subcontractor;

(3) Estimated dollar amount of the subcontract;

(4) Estimated starting and completion dates of the subcontract; and

(5) Geographical area in which the subcontract is to be performed.

(e) As used in this Notice, and in any contract resulting from this solicitation, the "covered area" is **Hastings, Minnesota in the county of Dakota and Winona, Minnesota in the county of Winona.**

(End of provision)

**52.222-26 EQUAL OPPORTUNITY (APR 2002)**

(a) Definition. United States, as used in this clause, means the 50 States, the District of Columbia, Puerto Rico, the Northern Mariana Islands, American Samoa, Guam, the U.S. Virgin Islands, and Wake Island.

(b) If, during any 12-month period (including the 12 months preceding the award of this contract), the Contractor has been or is awarded nonexempt Federal contracts and/or subcontracts that have an aggregate value in excess of \$10,000, the Contractor shall comply with paragraphs (b)(1) through (b)(11) of this clause, except for work performed outside the United States by employees who were not recruited within the United States. Upon request, the Contractor shall provide information necessary to determine the applicability of this clause.

(1) The Contractor shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. However, it shall not be a violation of this clause for the Contractor to extend a publicly announced preference in employment to Indians living on or near an Indian reservation, in connection with employment opportunities on or near an Indian reservation, as permitted by 41 CFR 60-1.5.

(2) The Contractor shall take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, or national origin. This shall include, but not be limited to, (i) employment, (ii) upgrading, (iii) demotion, (iv) transfer, (v) recruitment or recruitment advertising, (vi) layoff or termination, (vii) rates of pay or other forms of compensation, and (viii) selection for training, including apprenticeship.

(3) The Contractor shall post in conspicuous places available to employees and applicants for employment the notices to be provided by the Contracting Officer that explain this clause.

(4) The Contractor shall, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.

(5) The Contractor shall send, to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, the notice to be provided by the Contracting Officer advising the labor union or workers' representative of the Contractor's commitments under this clause, and post copies of the notice in conspicuous places available to employees and applicants for employment.

(6) The Contractor shall comply with Executive Order 11246, as amended, and the rules, regulations, and orders of the Secretary of Labor.

(7) The Contractor shall furnish to the contracting agency all information required by Executive Order 11246, as amended, and by the rules, regulations, and orders of the Secretary of Labor. The Contractor shall also file Standard Form 100 (EEO-1), or any successor form, as prescribed in 41 CFR part 60-1. Unless the Contractor has filed within the 12 months preceding the date of contract award, the Contractor shall, within 30 days after contract award, apply to

either the regional Office of Federal Contract Compliance Programs (OFCCP) or the local office of the Equal Employment Opportunity Commission for the necessary forms.

(8) The Contractor shall permit access to its premises, during normal business hours, by the contracting agency or the OFCCP for the purpose of conducting on-site compliance evaluations and complaint investigations. The Contractor shall permit the Government to inspect and copy any books, accounts, records (including computerized records), and other material that may be relevant to the matter under investigation and pertinent to compliance with Executive Order 11246, as amended, and rules and regulations that implement the Executive Order.

(9) If the OFCCP determines that the Contractor is not in compliance with this clause or any rule, regulation, or order of the Secretary of Labor, this contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts, under the procedures authorized in Executive Order 11246, as amended. In addition, sanctions may be imposed and remedies invoked against the Contractor as provided in Executive Order 11246, as amended; in the rules, regulations, and orders of the Secretary of Labor; or as otherwise provided by law.

(10) The Contractor shall include the terms and conditions of subparagraphs (b)(1) through (11) of this clause in every subcontract or purchase order that is not exempted by the rules, regulations, or orders of the Secretary of Labor issued under Executive Order 11246, as amended, so that these terms and conditions will be binding upon each subcontractor or vendor.

(11) The Contractor shall take such action with respect to any subcontract or purchase order as the contracting officer may direct as a means of enforcing these terms and conditions, including sanctions for noncompliance; provided, that if the Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of any direction, the Contractor may request the United States to enter into the litigation to protect the interests of the United States.

(c) Notwithstanding any other clause in this contract, disputes relative to this clause will be governed by the procedures in 41 CFR 60-1.1.

(End of clause)

## ***52.222-27 AFFIRMATIVE ACTION COMPLIANCE REQUIREMENTS FOR CONSTRUCTION (FEB 1999)***

(a) Definitions. "Covered area," as used in this clause, means the geographical area described in the solicitation for this contract.

"Deputy Assistant Secretary," as used in this clause, means Deputy Assistant Secretary for Federal Contract Compliance, U.S. Department of Labor, or a designee.

"Employer's identification number," as used in this clause, means the Federal Social Security number used on the employer's quarterly federal tax return, U.S. Treasury Department Form 941.

"Minority," as used in this clause, means--

(1) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).

(2) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands);

(3) Black (all persons having origins in any of the black African racial groups not of Hispanic origin); and

(4) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race).

(b) If the Contractor, or a subcontractor at any tier, subcontracts a portion of the work involving any construction trade, each such subcontract in excess of \$10,000 shall include this clause and the Notice containing the goals for minority and female participation stated in the solicitation for this contract.

(c) If the Contractor is participating in a Hometown Plan (41 CFR 60-4) approved by the U.S. Department of Labor in a covered area, either individually or through an association, its affirmative action obligations on all work in the plan area (including goals) shall comply with the plan for those trades that have unions participating in the plan. Contractors must be able to demonstrate participation in, and compliance with, the provisions of the plan. Each Contractor or subcontractor participating in an approved plan is also required to comply with its obligations under the Equal Opportunity clause, and to make a good faith effort to achieve each goal under the plan in each trade in which it has employees. The overall good-faith performance by other Contractors or subcontractors toward a goal in an approved plan does not excuse any Contractor's or subcontractor's failure to make good-faith efforts to achieve the plan's goals.

(d) The Contractor shall implement the affirmative action procedures in subparagraphs (g)(1) through (16) of this clause. The goals stated in the solicitation for this contract are expressed as percentages of the total hours of employment and training of minority and female utilization that the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. If the Contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for the geographical area where that work is actually performed. The Contractor is expected to make substantially uniform progress toward its goals in each craft.

(e) Neither the terms and conditions of any collective bargaining agreement, nor the failure by a union with which the Contractor has a collective bargaining agreement, to refer minorities or women shall excuse the Contractor's obligations under this clause, Executive Order 11246, as amended, or the regulations thereunder.

(f) In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.

(g) The Contractor shall take affirmative action to ensure equal employment opportunity. The evaluation of the Contractor's compliance with this clause shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully and implement affirmative action steps at least as extensive as the following:

(1) Ensure a working environment free of harassment, intimidation, and coercion at all sites and in all facilities where the Contractor's employees are assigned to work. The Contractor, if possible, will assign two or more women to each construction project. The Contractor shall ensure that foremen, superintendents, and other onsite supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at these sites or facilities.

(2) Establish and maintain a current list of sources for minority and female recruitment. Provide written notification to minority and female recruitment sources and community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.

(3) Establish and maintain a current file of the names, addresses, and telephone numbers of each minority and female



off-the-street applicant, referrals of minorities or females from unions, recruitment sources, or community organizations, and the action taken with respect to each individual. If an individual was sent to the union hiring hall for referral and not referred back to the Contractor by the union or, if referred back, not employed by the Contractor, this shall be documented in the file, along with whatever additional actions the Contractor may have taken.

(4) Immediately notify the Deputy Assistant Secretary when the union or unions with which the Contractor has a collective bargaining agreement has not referred back to the Contractor a minority or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.

(5) Develop on-the-job training opportunities and/or participate in training programs for the area that expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under subparagraph (g)(2) of this clause.

(6) Disseminate the Contractor's equal employment policy by--

(i) Providing notice of the policy to unions and to training, recruitment, and outreach programs, and requesting their cooperation in assisting the Contractor in meeting its contract obligations;

(ii) Including the policy in any policy manual and in collective bargaining agreements;

(iii) Publicizing the policy in the company newspaper, annual report, etc.;

(iv) Reviewing the policy with all management personnel and with all minority and female employees at least once a year; and

(v) Posting the policy on bulletin boards accessible to employees at each location where construction work is performed.

(7) Review, at least annually, the Contractor's equal employment policy and affirmative action obligations with all employees having responsibility for hiring, assignment, layoff, termination, or other employment decisions. Conduct review of this policy with all on-site supervisory personnel before initiating construction work at a job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

(8) Disseminate the Contractor's equal employment policy externally by including it in any advertising in the news media, specifically including minority and female news media. Provide written notification to, and discuss this policy with, other Contractors and subcontractors with which the Contractor does or anticipates doing business.

(9) Direct recruitment efforts, both oral and written, to minority, female, and community organizations, to schools with minority and female students, and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than 1 month before the date for acceptance of applications for apprenticeship or training by any recruitment source, send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.

(10) Encourage present minority and female employees to recruit minority persons and women. Where reasonable, provide after-school, summer, and vacation employment to minority and female youth both on the site and in other areas of the Contractor's workforce.

(11) Validate all tests and other selection requirements where required under 41 CFR 60-3.

(12) Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities. Encourage these employees to seek or to prepare for, through appropriate training, etc., opportunities for promotion.

(13) Ensure that seniority practices, job classifications, work assignments, and other personnel practices do not have a discriminatory effect by continually monitoring all personnel and employment-related activities to ensure that the Contractor's obligations under this contract are being carried out.

(14) Ensure that all facilities and company activities are nonsegregated except that separate or single-user rest rooms and necessary dressing or sleeping areas shall be provided to assure privacy between the sexes.

(15) Maintain a record of solicitations for subcontracts for minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.

(16) Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's equal employment policy and affirmative action obligations.

(h) The Contractor is encouraged to participate in voluntary associations that may assist in fulfilling one or more of the affirmative action obligations contained in subparagraphs (g)(1) through (16) of this clause. The efforts of a contractor association, joint contractor-union, contractor-community, or similar group of which the contractor is a member and participant may be asserted as fulfilling one or more of its obligations under subparagraphs (g)(1) through (16) of this clause, provided the Contractor--

(1) Actively participates in the group;

(2) Makes every effort to ensure that the group has a positive impact on the employment of minorities and women in the industry;

(3) Ensures that concrete benefits of the program are reflected in the Contractor's minority and female workforce participation;

(4) Makes a good-faith effort to meet its individual goals and timetables; and

(5) Can provide access to documentation that demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply is the Contractor's, and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.

(i) A single goal for minorities and a separate single goal for women shall be established. The Contractor is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and nonminority. Consequently, the Contractor may be in violation of Executive Order 11246, as amended, if a particular group is employed in a substantially disparate manner.

(j) The Contractor shall not use goals or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.

(k) The Contractor shall not enter into any subcontract with any person or firm debarred from Government contracts under Executive Order 11246, as amended.

(l) The Contractor shall carry out such sanctions and penalties for violation of this clause and of the Equal Opportunity clause, including suspension, termination, and cancellation of existing subcontracts, as may be imposed or ordered under Executive Order 11246, as amended, and its implementing regulations, by the OFCCP. Any failure to carry out these sanctions and penalties as ordered shall be a violation of this clause and Executive Order 11246, as

amended.

(m) The Contractor in fulfilling its obligations under this clause shall implement affirmative action procedures at least as extensive as those prescribed in paragraph (g) of this clause, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of Executive Order 11246, as amended, the implementing regulations, or this clause, the Deputy Assistant Secretary shall take action as prescribed in 41 CFR 60-4.8.

(n) The Contractor shall designate a responsible official to--

(1) Monitor all employment-related activity to ensure that the Contractor's equal employment policy is being carried out;

(2) Submit reports as may be required by the Government; and

(3) Keep records that shall at least include for each employee the name, address, telephone number, construction trade, union affiliation (if any), employee identification number, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, separate records are not required to be maintained.

Nothing contained herein shall be construed as a limitation upon the application of other laws that establish different standards of compliance or upon the requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

(End of clause)

**52.222-35 EQUAL OPPORTUNITY FOR SPECIAL DISABLED VETERANS, VETERANS OF THE VIETNAM ERA, AND OTHER ELIGIBLE VETERANS (DEC 2001)**

(a) Definitions. As used in this clause--

All employment openings means all positions except executive and top management, those positions that will be filled from within the Contractor's organization, and positions lasting 3 days or less. This term includes full-time employment, temporary employment of more than 3 days duration, and part-time employment.

Executive and top management means any employee--

(1) Whose primary duty consists of the management of the enterprise in which the individual is employed or of a customarily recognized department or subdivision thereof;

(2) Who customarily and regularly directs the work of two or more other employees;

(3) Who has the authority to hire or fire other employees or whose suggestions and recommendations as to the hiring or firing and as to the advancement and promotion or any other change of status of other employees will be given particular weight;

(4) Who customarily and regularly exercises discretionary powers; and

(5) Who does not devote more than 20 percent or, in the case of an employee of a retail or service establishment, who does not devote more than 40 percent of total hours of work in the work week to activities that are not directly and closely related to the performance of the work described in paragraphs (1) through (4) of this definition. This paragraph (5) does not apply in the case of an employee who is in sole charge of an establishment or a physically separated branch establishment, or who owns at least a 20 percent interest in the enterprise in which the individual is employed.

Other eligible veteran means any other veteran who served on active duty during a war or in a campaign or expedition for which a campaign badge has been authorized.

Positions that will be filled from within the Contractor's organization means employment openings for which the Contractor will give no consideration to persons outside the Contractor's organization (including any affiliates, subsidiaries, and parent companies) and includes any openings the Contractor proposes to fill from regularly established "recall" lists. The exception does not apply to a particular opening once an employer decides to consider applicants outside of its organization.

Qualified special disabled veteran means a special disabled veteran who satisfies the requisite skill, experience, education, and other job-related requirements of the employment position such veteran holds or desires, and who, with or without reasonable accommodation, can perform the essential functions of such position.

Special disabled veteran means--

(1) A veteran who is entitled to compensation (or who but for the receipt of military retired pay would be entitled to compensation) under laws administered by the Department of Veterans Affairs for a disability--

(i) Rated at 30 percent or more; or

(ii) Rated at 10 or 20 percent in the case of a veteran who has been determined under 38 U.S.C. 3106 to have a serious employment handicap (i.e., a significant impairment of the veteran's ability to prepare for, obtain, or retain employment consistent with the veteran's abilities, aptitudes, and interests); or

(2) A person who was discharged or released from active duty because of a service-connected disability.

Veteran of the Vietnam era means a person who--

(1) Served on active duty for a period of more than 180 days and was discharged or released from active duty with other than a dishonorable discharge, if any part of such active duty occurred--

(i) In the Republic of Vietnam between February 28, 1961, and May 7, 1975; or

(ii) Between August 5, 1964, and May 7, 1975, in all other cases; or

(2) Was discharged or released from active duty for a service-connected disability if any part of the active duty was performed--

(i) In the Republic of Vietnam between February 28, 1961, and May 7, 1975; or

(ii) Between August 5, 1964, and May 7, 1975, in all other cases.

(b) General. (1) The Contractor shall not discriminate against the individual because the individual is a special disabled veteran, a veteran of the Vietnam era, or other eligible veteran, regarding any position for which the employee or applicant for employment is qualified. The Contractor shall take affirmative action to employ, advance in employment, and otherwise treat qualified special disabled veterans, veterans of the Vietnam era, and other eligible veterans without discrimination based upon their disability or veterans' status in all employment practices such as--

- (i) Recruitment, advertising, and job application procedures;
- (ii) Hiring, upgrading, promotion, award of tenure, demotion, transfer, layoff, termination, right of return from layoff and rehiring;
- (iii) Rate of pay or any other form of compensation and changes in compensation;
- (iv) Job assignments, job classifications, organizational structures, position descriptions, lines of progression, and seniority lists;
- (v) Leaves of absence, sick leave, or any other leave;
- (vi) Fringe benefits available by virtue of employment, whether or not administered by the Contractor;
- (vii) Selection and financial support for training, including apprenticeship, and on-the-job training under 38 U.S.C. 3687, professional meetings, conferences, and other related activities, and selection for leaves of absence to pursue training;
- (viii) Activities sponsored by the Contractor including social or recreational programs; and
- (ix) Any other term, condition, or privilege of employment.

(2) The Contractor shall comply with the rules, regulations, and relevant orders of the Secretary of Labor issued under the Vietnam Era Veterans' Readjustment Assistance Act of 1972 (the Act), as amended (38 U.S.C. 4211 and 4212).

(c) Listing openings. (1) The Contractor shall immediately list all employment openings that exist at the time of the execution of this contract and those which occur during the performance of this contract, including those not generated by this contract, and including those occurring at an establishment of the Contractor other than the one where the contract is being performed, but excluding those of independently operated corporate affiliates, at an appropriate local public employment service office of the State wherein the opening occurs. Listing employment openings with the U.S. Department of Labor's America's Job Bank shall satisfy the requirement to list jobs with the local employment service office.

(2) The Contractor shall make the listing of employment openings with the local employment service office at least concurrently with using any other recruitment source or effort and shall involve the normal obligations of placing a bona fide job order, including accepting referrals of veterans and nonveterans. This listing of employment openings does not require hiring any particular job applicant or hiring from any particular group of job applicants and is not intended to relieve the Contractor from any requirements of Executive orders or regulations concerning nondiscrimination in employment.

(3) Whenever the Contractor becomes contractually bound to the listing terms of this clause, it shall advise the State public employment agency in each State where it has establishments of the name and location of each hiring location in the State. As long as the Contractor is contractually bound to these terms and has so advised the State agency, it need not advise the State agency of subsequent contracts. The Contractor may advise the State agency when it is no longer bound by this contract clause.

(d) Applicability. This clause does not apply to the listing of employment openings that occur and are filled outside the 50 States, the District of Columbia, the Commonwealth of Puerto Rico, the Commonwealth of the Northern Mariana Islands, American Samoa, Guam, the Virgin Islands of the United States, and Wake Island.

(e) Postings. (1) The Contractor shall post employment notices in conspicuous places that are available to employees and applicants for employment.

(2) The employment notices shall--

(i) State the rights of applicants and employees as well as the Contractor's obligation under the law to take affirmative action to employ and advance in employment qualified employees and applicants who are special disabled veterans, veterans of the Vietnam era, and other eligible veterans; and

(ii) Be in a form prescribed by the Deputy Assistant Secretary for Federal Contract Compliance Programs, Department of Labor (Deputy Assistant Secretary of Labor), and provided by or through the Contracting Officer.

(3) The Contractor shall ensure that applicants or employees who are special disabled veterans are informed of the contents of the notice (e.g., the Contractor may have the notice read to a visually disabled veteran, or may lower the posted notice so that it can be read by a person in a wheelchair).

(4) The Contractor shall notify each labor union or representative of workers with which it has a collective bargaining agreement, or other contract understanding, that the Contractor is bound by the terms of the Act and is committed to take affirmative action to employ, and advance in employment, qualified special disabled veterans, veterans of the Vietnam era, and other eligible veterans.

(f) Noncompliance. If the Contractor does not comply with the requirements of this clause, the Government may take appropriate actions under the rules, regulations, and relevant orders of the Secretary of Labor issued pursuant to the Act.

(g) Subcontracts. The Contractor shall insert the terms of this clause in all subcontracts or purchase orders of \$25,000 or more unless exempted by rules, regulations, or orders of the Secretary of Labor. The Contractor shall act as specified by the Deputy Assistant Secretary of Labor to enforce the terms, including action for noncompliance.

(End of clause)

**52.222-36 AFFIRMATIVE ACTION FOR WORKERS WITH DISABILITIES (JUN 1998)**

(a) General. (1) Regarding any position for which the employee or applicant for employment is qualified, the Contractor shall not discriminate against any employee or applicant because of physical or mental disability. The Contractor agrees to take affirmative action to employ, advance in employment, and otherwise treat qualified individuals with disabilities without discrimination based upon their physical or mental disability in all employment practices such as--

(i) Recruitment, advertising, and job application procedures;

(ii) Hiring, upgrading, promotion, award of tenure, demotion, transfer, layoff, termination, right of return from layoff, and rehiring;

(iii) Rates of pay or any other form of compensation and changes in compensation;

(iv) Job assignments, job classifications, organizational structures, position descriptions, lines of progression, and seniority lists;

(v) Leaves of absence, sick leave, or any other leave;

- (vi) Fringe benefits available by virtue of employment, whether or not administered by the Contractor;
- (vii) Selection and financial support for training, including apprenticeships, professional meetings, conferences, and other related activities, and selection for leaves of absence to pursue training;
- (viii) Activities sponsored by the Contractor, including social or recreational programs; and
- (ix) Any other term, condition, or privilege of employment.

(2) The Contractor agrees to comply with the rules, regulations, and relevant orders of the Secretary of Labor (Secretary) issued under the Rehabilitation Act of 1973 (29 U.S.C. 793) (the Act), as amended.

(b) Postings. (1) The Contractor agrees to post employment notices stating--

(i) The Contractor's obligation under the law to take affirmative action to employ and advance in employment qualified individuals with disabilities; and

(ii) The rights of applicants and employees.

(2) These notices shall be posted in conspicuous places that are available to employees and applicants for employment. The Contractor shall ensure that applicants and employees with disabilities are informed of the contents of the notice (e.g., the Contractor may have the notice read to a visually disabled individual, or may lower the posted notice so that it might be read by a person in a wheelchair). The notices shall be in a form prescribed by the Deputy Assistant Secretary for Federal Contract Compliance of the U.S. Department of Labor (Deputy Assistant Secretary) and shall be provided by or through the Contracting Officer.

(3) The Contractor shall notify each labor union or representative of workers with which it has a collective bargaining agreement or other contract understanding, that the Contractor is bound by the terms of Section 503 of the Act and is committed to take affirmative action to employ, and advance in employment, qualified individuals with physical or mental disabilities.

(c) Noncompliance. If the Contractor does not comply with the requirements of this clause, appropriate actions may be taken under the rules, regulations, and relevant orders of the Secretary issued pursuant to the Act.

(d) Subcontracts. The Contractor shall include the terms of this clause in every subcontract or purchase order in excess of \$10,000 unless exempted by rules, regulations, or orders of the Secretary. The Contractor shall act as specified by the Deputy Assistant Secretary to enforce the terms, including action for noncompliance.

(End of clause)

**52.222-37 EMPLOYMENT REPORTS ON SPECIAL DISABLED VETERANS, VETERANS OF THE VIETNAM ERA, AND OTHER ELIGIBLE VETERANS (DEC 2001)**

(a) Unless the Contractor is a State or local government agency, the Contractor shall report at least annually, as required by the Secretary of Labor, on--

(1) The number of disabled veterans and the number of veterans of the Vietnam era in the workforce of the contractor by job category and hiring location; and

(2) The total number of new employees hired during the period covered by the report, and of that total, the number of disabled veterans, and the number of veterans of the Vietnam era.

(b) The above items shall be reported by completing the form entitled "Federal Contractor Veterans' Employment Report VETS-100."

(c) Reports shall be submitted no later than September 30 of each year beginning September 30, 1988.

(d) The employment activity report required by paragraph (a)(2) of this clause shall reflect total hires during the most recent 12-month period as of the ending date selected for the employment profile report required by paragraph (a)(1) of this clause. Contractors may select an ending date: (1) As of the end of any pay period during the period January through March 1st of the year the report is due, or (2) as of December 31, if the contractor has previous written approval from the Equal Employment Opportunity Commission to do so for purposes of submitting the Employer Information Report EEO-1 (Standard Form 100).

(e) The count of veterans reported according to paragraph (a) of this clause shall be based on voluntary disclosure. Each Contractor subject to the reporting requirements at 38 U.S.C. 4212 shall invite all disabled veterans and veterans of the Vietnam era who wish to benefit under the affirmative action program at 38 U.S.C. 4212 to identify themselves to the Contractor. The invitation shall state that the information is voluntarily provided; that the information will be kept confidential; that disclosure or refusal to provide the information will not subject the applicant or employee to any adverse treatment; and that the information will be used only in accordance with the regulations promulgated under 38 U.S.C. 4212.

(f) Subcontracts. The Contractor shall include the terms of this clause in every subcontract or purchase order of \$10,000 or more unless exempted by rules, regulations, or orders of the Secretary.

(End of clause)

#### **52.223-5 POLLUTION PREVENTION AND RIGHT-TO-KNOW INFORMATION (AUG 2003)**

(a) Definitions. As used in this clause--

Priority chemical means a chemical identified by the Interagency Environmental Leadership Workgroup or, alternatively, by an agency pursuant to section 503 of Executive Order 13148 of April 21, 2000, Greening the Government through Leadership in Environmental Management.

"Toxic chemical means a chemical or chemical category listed in 40 CFR 372.65."

(b) Executive Order 13148 requires Federal facilities to comply with the provisions of the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA) (42 U.S.C. 11001-11050) and the Pollution Prevention Act of 1990 (PPA) (42 U.S.C. 13101-13109).

(c) The Contractor shall provide all information needed by the Federal facility to comply with the following:

(1) The emergency planning reporting requirements of section 302 of EPCRA.

(2) The emergency notice requirements of section 304 of EPCRA.

(3) The list of Material Safety Data Sheets, required by section 311 of EPCRA.

(4) The emergency and hazardous chemical inventory forms of section 312 of EPCRA.



(5) The toxic chemical release inventory of section 313 of EPCRA, which includes the reduction and recycling information required by section 6607 of PPA.

(6) The toxic chemical, priority chemical, and hazardous substance release and use reduction goals of sections 502 and 503 of Executive Order 13148.

(End of clause)

**52.223-6 DRUG-FREE WORKPLACE (MAY 2001)**

(a) Definitions. As used in this clause --

"Controlled substance" means a controlled substance in schedules I through V of section 202 of the Controlled Substances Act (21 U.S.C. 812) and as further defined in regulation at 21 CFR 1308.11 - 1308.15.

"Conviction" means a finding of guilt (including a plea of nolo contendere) or imposition of sentence, or both, by any judicial body charged with the responsibility to determine violations of the Federal or State criminal drug statutes.

"Criminal drug statute" means a Federal or non-Federal criminal statute involving the manufacture, distribution, dispensing, possession, or use of any controlled substance.

"Drug-free workplace" means the site(s) for the performance of work done by the Contractor in connection with a specific contract at which employees of the Contractor are prohibited from engaging in the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance.

"Employee" means an employee of a Contractor directly engaged in the performance of work under a Government contract. "Directly engaged" is defined to include all direct cost employees and any other Contractor employee who has other than a minimal impact or involvement in contract performance.

"Individual" means an offeror/contractor that has no more than one employee including the offeror/contractor.

(b) The Contractor, if other than an individual, shall-- within 30 days after award (unless a longer period is agreed to in writing for contracts of 30 days or more performance duration), or as soon as possible for contracts of less than 30 days performance duration--

(1) Publish a statement notifying its employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the Contractor's workplace and specifying the actions that will be taken against employees for violations of such prohibition;

(2) Establish an ongoing drug-free awareness program to inform such employees about--

(i) The dangers of drug abuse in the workplace;

(ii) The Contractor's policy of maintaining a drug-free workplace;

(iii) Any available drug counseling, rehabilitation, and employee assistance programs; and

(iv) The penalties that may be imposed upon employees for drug abuse violations occurring in the workplace;

(3) Provide all employees engaged in performance of the contract with a copy of the statement required by subparagraph (b)(1) of this clause;

(4) Notify such employees in writing in the statement required by subparagraph (b)(1) of this clause that, as a condition of continued employment on this contract, the employee will--

(i) Abide by the terms of the statement; and

(ii) Notify the employer in writing of the employee's conviction under a criminal drug statute for a violation occurring in the workplace no later than 5 days after such conviction.

(5) Notify the Contracting Officer in writing within 10 days after receiving notice under subdivision (b)(4)(ii) of this clause, from an employee or otherwise receiving actual notice of such conviction. The notice shall include the position title of the employee;

(6) Within 30 days after receiving notice under subdivision (b)(4)(ii) of this clause of a conviction, take one of the following actions with respect to any employee who is convicted of a drug abuse violation occurring in the workplace:

(i) Taking appropriate personnel action against such employee, up to and including termination; or

(ii) Require such employee to satisfactorily participate in a drug abuse assistance or rehabilitation program approved for such purposes by a Federal, State, or local health, law enforcement, or other appropriate agency; and

(7) Make a good faith effort to maintain a drug-free workplace through implementation of subparagraphs (b)(1) through (b)(6) of this clause.

(c) The Contractor, if an individual, agrees by award of the contract or acceptance of a purchase order, not to engage in the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance while performing this contract.

(d) In addition to other remedies available to the Government, the Contractor's failure to comply with the requirements of paragraph (b) or (c) of this clause may, pursuant to FAR 23.506, render the Contractor subject to suspension of contract payments, termination of the contract for default, and suspension or debarment.

(End of clause)

#### **52.223-14 TOXIC CHEMICAL RELEASE REPORTING (AUG 2003)**

(a) Unless otherwise exempt, the Contractor, as owner or operator of a facility used in the performance of this contract, shall file by July 1 for the prior calendar year an annual Toxic Chemical Release Inventory Form (Form R) as described in sections 313(a) and (g) of the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA) (42 U.S.C. 11023(a) and (g)), and section 6607 of the Pollution Prevention Act of 1990 (PPA) (42 U.S.C. 13106). The Contractor shall file, for each facility subject to the Form R filing and reporting requirements, the annual Form R throughout the life of the contract.

(b) A Contractor-owned or -operated facility used in the performance of this contract is exempt from the requirement to file an annual Form R if--

(1) The facility does not manufacture, process, or otherwise use any toxic chemicals listed in 40 CFR 372.65;

(2) The facility does not have 10 or more full-time employees as specified in section 313(b)(1)(A) of EPCRA, 42 U.S.C. 11023(b)(1)(A);

(3) The facility does not meet the reporting thresholds of toxic chemicals established under of EPCRA, 42 U.S.C. 11023(f) (including the alternate thresholds at 40 CFR 372.27, provided an appropriate certification form has been filed with EPA);

(4) The facility does not fall within the following Standard Industrial Classification (SIC) codes or their corresponding North American Industry Classification System sectors:

(i) Major group code 10 (except 1011, 1081, and 1094.

(ii) Major group code 12 (except 1241).

(iii) Major group codes 20 through 39.

(iv) Industry code 4911, 4931, or 4939 (limited to facilities that combust coal and/or oil for the purpose of generating power for distribution in commerce).

(v) Industry code 4953 (limited to facilities regulated under the Resource Conservation and Recovery Act, Subtitle C (42 U.S.C. 6921, et seq.)), 5169, 5171, or 7389 (limited to facilities primarily engaged in solvent recovery services on a contract or fee basis); or

(5) The facility is not located in the United States or its outlying areas.

(c) If the Contractor has certified to an exemption in accordance with one or more of the criteria in paragraph (b) of this clause, and after award of the contract circumstances change so that any of its owned or operated facilities used in the performance of this contract is no longer exempt--

(1) The Contractor shall notify the Contracting Officer; and

(2) The Contractor, as owner or operator of a facility used in the performance of this contract that is no longer exempt, shall (i) submit a Toxic Chemical Release Inventory Form (Form R) on or before July 1 for the prior calendar year during which the facility becomes eligible; and (ii) continue to file the annual Form R for the life of the contract for such facility.

(d) The Contracting Officer may terminate this contract or take other action as appropriate, if the Contractor fails to comply accurately and fully with the EPCRA and PPA toxic chemical release filing and reporting requirements.

(e) Except for acquisitions of commercial items, as defined in FAR Part 2, the Contractor shall--

(1) For competitive subcontracts expected to exceed \$100,000 (including all options), include a solicitation provision substantially the same as the provision at FAR 52.223-13, Certification of Toxic Chemical Release Reporting; and

(2) Include in any resultant subcontract exceeding \$100,000 (including all options), the substance of this clause, except this paragraph (e).

(End of clause)

**52.225-9 BUY AMERICAN ACT—CONSTRUCTION MATERIALS (JUN 2003)**

(a) Definitions. As used in this clause--

Component means an article, material, or supply incorporated directly into a construction material.

Construction material means an article, material, or supply brought to the construction site by the Contractor or a subcontractor for incorporation into the building or work. The term also includes an item brought to the site preassembled from articles, materials, or supplies. However, emergency life safety systems, such as emergency lighting, fire alarm, and audio evacuation systems, that are discrete systems incorporated into a public building or work and that are produced as complete systems, are evaluated as a single and distinct construction material regardless of when or how the individual parts or components of those systems are delivered to the construction site. Materials purchased directly by the Government are supplies, not construction material.

Cost of components means--

(1) For components purchased by the Contractor, the acquisition cost, including transportation costs to the place of incorporation into the construction material (whether or not such costs are paid to a domestic firm), and any applicable duty (whether or not a duty-free entry certificate is issued); or

(2) For components manufactured by the Contractor, all costs associated with the manufacture of the component, including transportation costs as described in paragraph (1) of this definition, plus allocable overhead costs, but excluding profit. Cost of components does not include any costs associated with the manufacture of the end product.

Domestic construction material means--

(1) An unmanufactured construction material mined or produced in the United States; or

(2) A construction material manufactured in the United States, if the cost of its components mined, produced, or manufactured in the United States exceeds 50 percent of the cost of all its components. Components of foreign origin of the same class or kind for which nonavailability determinations have been made are treated as domestic.

Foreign construction material means a construction material other than a domestic construction material.

United States means the 50 States, the District of Columbia, and outlying areas.

(b) Domestic preference. (1) This clause implements the Buy American Act (41 U.S.C. 10a-10d) by providing a preference for domestic construction material. The Contractor shall use only domestic construction material in performing this contract, except as provided in paragraphs (b)(2) and (b)(3) of this clause.

(2) This requirement does not apply to the construction material or components listed by the Government as follows:  
None

(3) The Contracting Officer may add other foreign construction material to the list in paragraph (b)(2) of this clause if the Government determines that

(i) The cost of domestic construction material would be unreasonable. The cost of a particular domestic construction material subject to the requirements of the Buy American Act is unreasonable when the cost of such material exceeds the cost of foreign material by more than 6 percent;

(ii) The application of the restriction of the Buy American Act to a particular construction material would be impracticable or inconsistent with the public interest; or

(iii) The construction material is not mined, produced, or manufactured in the United States in sufficient and reasonably available commercial quantities of a satisfactory quality.

(c) Request for determination of inapplicability of the Buy American Act. (1)(i) Any Contractor request to use foreign construction material in accordance with paragraph (b)(3) of this clause shall include adequate information for Government evaluation of the request, including--

(A) A description of the foreign and domestic construction materials;

(B) Unit of measure;

(C) Quantity;

(D) Price;

(E) Time of delivery or availability;

(F) Location of the construction project;

(G) Name and address of the proposed supplier; and

(H) A detailed justification of the reason for use of foreign construction materials cited in accordance with paragraph (b)(3) of this clause.

(ii) A request based on unreasonable cost shall include a reasonable survey of the market and a completed price comparison table in the format in paragraph (d) of this clause.

(iii) The price of construction material shall include all delivery costs to the construction site and any applicable duty (whether or not a duty-free certificate may be issued).

(iv) Any Contractor request for a determination submitted after contract award shall explain why the Contractor could not reasonably foresee the need for such determination and could not have requested the determination before contract award. If the Contractor does not submit a satisfactory explanation, the Contracting Officer need not make a determination.

(2) If the Government determines after contract award that an exception to the Buy American Act applies and the Contracting Officer and the Contractor negotiate adequate consideration, the Contracting Officer will modify the contract to allow use of the foreign construction material. However, when the basis for the exception is the unreasonable price of a domestic construction material, adequate consideration is not less than the differential established in paragraph (b)(3)(i) of this clause.

(3) Unless the Government determines that an exception to the Buy American Act applies, use of foreign construction material is noncompliant with the Buy American Act.

(d) Data. To permit evaluation of requests under paragraph (c) of this clause based on unreasonable cost, the Contractor shall include the following information and any applicable supporting data based on the survey of suppliers:

Foreign and Domestic Construction Materials Price Comparison

Construction material description	Unit of measure	Quantity	Price (dollars) \1\
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Item 1

Foreign construction material....

Domestic construction material...

Item 2

Foreign construction material....  
 Domestic construction material...  
 -----

Include all delivery costs to the construction site and any applicable duty (whether or not a duty-free entry certificate is issued).

List name, address, telephone number, and contact for suppliers surveyed. Attach copy of response; if oral, attach summary.

Include other applicable supporting information.

(End of clause)

#### **52.225-13 RESTRICTIONS ON CERTAIN FOREIGN PURCHASES (JAN 2004)**

(a) Except as authorized by the Office of Foreign Assets Control (OFAC) in the Department of the Treasury, the Contractor shall not acquire, for use in the performance of this contract, any supplies or services if any proclamation, Executive order, or statute administered by OFAC, or if OFAC's implementing regulations at 31 CFR chapter V, would prohibit such a transaction by a person subject to the jurisdiction of the United States.

(b) Except as authorized by OFAC, most transactions involving Cuba, Iran, Libya, and Sudan are prohibited, as are most imports from North Korea, into the United States or its outlying areas. Lists of entities and individuals subject to economic sanctions are included in OFAC's List of Specially Designated Nationals and Blocked Persons at TerList1.html. More information about these restrictions, as well as updates, is available in the OFAC's regulations at 31 CFR chapter V and/or on OFAC's Web site at <http://www.treas.gov/ofac>.

(c) The Contractor shall insert this clause, including this paragraph (c), in all subcontracts.

(End of clause)

#### **52.226-1 UTILIZATION OF INDIAN ORGANIZATIONS AND INDIAN-OWNED ECONOMIC ENTERPRISES (JUN 2000)**

(a) Definitions. As used in this clause:

"Indian" means any person who is a member of any Indian tribe, band, group, pueblo or community that is recognized by the Federal Government as eligible for services from the Bureau of Indian Affairs (BIA) in accordance with 25 U.S.C. 1452(c) and any "Native" as defined in the Alaska Native Claims Settlement Act (43 U.S.C. 1601).

"Indian organization" means the governing body of any Indian tribe or entity established or recognized by the governing body of an Indian tribe for the purposes of 25 U.S.C., chapter 17.

"Indian-owned economic enterprise" means any Indian-owned (as determined by the Secretary of the Interior) commercial, industrial, or business activity established or organized for the purpose of profit, provided that Indian ownership constitute not less than 51 percent of the enterprise.

"Indian tribe" means any Indian tribe, band, group, pueblo or community, including native villages and native groups (including corporations organized by Kenai, Juneau, Sitka, and Kodiak) as defined in the Alaska Native Claims Settlement Act, that is recognized by the Federal Government as eligible for services from BIA in accordance with 25 U.S.C. 1542(c).

"Interested party" means a prime contractor or an actual or prospective offeror whose direct economic interest would

be affected by the award of a subcontract or by the failure to award a subcontract.

(b) The Contractor shall use its best efforts to give Indian organizations and Indian-owned economic enterprises (25 U.S.C. 1544) the maximum practicable opportunity to participate in the subcontracts it awards to the fullest extent consistent with efficient performance of its contract.

(1) The Contracting Officer and the Contractor, acting in good faith, may rely on the representation of an Indian organization or Indian-owned economic enterprise as to its eligibility, unless an interested party challenges its status or the Contracting Officer has independent reason to question that status. In the event of a challenge to the representation of a subcontractor, the Contracting Officer will refer the matter to the U.S. Department of the Interior, Bureau of Indian Affairs (BIA), Attn: Chief, Division of Contracting and Grants Administration, 1849 C Street, NW., MS 2626-MIB, Washington, DC 20240-4000.

The BIA will determine the eligibility and notify the Contracting Officer. No incentive payment will be made within 50 working days of subcontract award or while a challenge is pending. If a subcontractor is determined to be an ineligible participant, no incentive payment will be made under the Indian Incentive Program.

(2) The Contractor may request an adjustment under the Indian Incentive Program to the following:

- (i) The estimated cost of a cost-type contract.
- (ii) The target cost of a cost-plus-incentive-fee prime contract.
- (iii) The target cost and ceiling price of a fixed-price incentive prime contract.
- (iv) The price of a firm-fixed-price prime contract.

(3) The amount of the adjustment to the prime contract is 5 percent of the estimated cost, target cost, or firm-fixed-price included in the subcontract initially awarded to the Indian organization or Indian-owned economic enterprise.

(4) The Contractor has the burden of proving the amount claimed and must assert its request for an adjustment prior to completion of contract performance.

(c) The Contracting Officer, subject to the terms and conditions of the contract and the availability of funds, will authorize an incentive payment of 5 percent of the amount paid to the subcontractor. The Contracting Officer will seek funding in accordance with agency procedures.

(End of clause)

#### **52.227-1 AUTHORIZATION AND CONSENT (JUL 1995)**

(a) The Government authorizes and consents to all use and manufacture, in performing this contract or any subcontract at any tier, of any invention described in and covered by a United States patent (1) embodied in the structure or composition of any article the delivery of which is accepted by the Government under this contract or (2) used in machinery, tools, or methods whose use necessarily results from compliance by the Contractor or a subcontractor with (i) specifications or written provisions forming a part of this contract or (ii) specific written instructions given by the Contracting Officer directing the manner of performance. The entire liability to the Government for infringement of a patent of the United States shall be determined solely by the provisions of the indemnity clause, if any, included in this contract or any subcontract hereunder (including any lower-tier subcontract), and the Government assumes liability for all other infringement to the extent of the authorization and consent hereinabove granted.

(b) The Contractor agrees to include, and require inclusion of, this clause, suitably modified to identify the parties, in all subcontracts at any tier for supplies or services (including construction, architect-engineer services, and materials, supplies, models, samples, and design or testing services expected to exceed the simplified acquisition threshold (however, omission of this clause from any subcontract, including those at or below the simplified acquisition threshold, does not affect this authorization and consent.)

(End of clause)

**52.227-4 PATENT INDEMNITY--CONSTRUCTION CONTRACTS (APR 1984)**

Except as otherwise provided, the Contractor agrees to indemnify the Government and its officers, agents, and employees against liability, including costs and expenses, for infringement upon any United States patent (except a patent issued upon an application that is now or may hereafter be withheld from issue pursuant to a Secrecy Order under 35 U.S.C. 181) arising out of performing this contract or out of the use or disposal by or for the account of the Government of supplies furnished or work performed under this contract.

(End of clause)

**52.228-2 ADDITIONAL BOND SECURITY (OCT 1997)**

The Contractor shall promptly furnish additional security required to protect the Government and persons supplying labor or materials under this contract if--

- (a) Any surety upon any bond, or issuing financial institution for other security, furnished with this contract becomes unacceptable to the Government.
- (b) Any surety fails to furnish reports on its financial condition as required by the Government;
- (c) The contract price is increased so that the penal sum of any bond becomes inadequate in the opinion of the Contracting Officer; or
- (d) An irrevocable letter of credit (ILC) used as security will expire before the end of the period of required security. If the Contractor does not furnish an acceptable extension or replacement ILC, or other acceptable substitute, at least 30 days before an ILC's scheduled expiration, the Contracting officer has the right to immediately draw on the ILC.

(End of clause)

**52.228-11 PLEDGES OF ASSETS (FEB 1992)**

(a) Offerors shall obtain from each person acting as an individual surety on a bid guarantee, a performance bond, or a payment bond--

(1) Pledge of assets; and

(2) Standard Form 28, Affidavit of Individual Surety.

(b) Pledges of assets from each person acting as an individual surety shall be in the form of--



(1) Evidence of an escrow account containing cash, certificates of deposit, commercial or Government securities, or other assets described in FAR 28.203-2 (except see 28.203-2(b)(2) with respect to Government securities held in book entry form) and/or;

(2) A recorded lien on real estate. The offeror will be required to provide--

(i) Evidence of title in the form of a certificate of title prepared by a title insurance company approved by the United States Department of Justice. This title evidence must show fee simple title vested in the surety along with any concurrent owners; whether any real estate taxes are due and payable; and any recorded encumbrances against the property, including the lien filed in favor of the Government as required by FAR 28.203-3(d);

(ii) Evidence of the amount due under any encumbrance shown in the evidence of title;

(iii) A copy of the current real estate tax assessment of the property or a current appraisal dated no earlier than 6 months prior to the date of the bond, prepared by a professional appraiser who certifies that the appraisal has been conducted in accordance with the generally accepted appraisal standards as reflected in the Uniform Standards of Professional Appraisal Practice, as promulgated by the Appraisal Foundation.

(End of clause)

**52.228-14 IRREVOCABLE LETTER OF CREDIT (DEC 1999)**

(a) "Irrevocable letter of credit" (ILC), as used in this clause, means a written commitment by a federally insured financial institution to pay all or part of a stated amount of money, until the expiration date of the letter, upon presentation by the Government (the beneficiary) of a written demand therefor. Neither the financial institution nor the offeror/Contractor can revoke or condition the letter of credit.

(b) If the offeror intends to use an ILC in lieu of a bid bond, or to secure other types of bonds such as performance and payment bonds, the letter of credit and letter of confirmation formats in paragraphs (e) and (f) of this clause shall be used.

(c) The letter of credit shall be irrevocable, shall require presentation of no document other than a written demand and the ILC (including confirming letter, if any), shall be issued/confirmed by an acceptable federally insured financial institution as provided in paragraph (d) of this clause, and--

(1) If used as a bid guarantee, the ILC shall expire no earlier than 60 days after the close of the bid acceptance period;

(2) If used as an alternative to corporate or individual sureties as security for a performance or payment bond, the offeror/Contractor may submit an ILC with an initial expiration date estimated to cover the entire period for which financial security is required or may submit an ILC with an initial expiration date that is a minimum period of one year from the date of issuance. The ILC shall provide that, unless the issuer provides the beneficiary written notice of non-renewal at least 60 days in advance of the current expiration date, the ILC is automatically extended without amendment for one year from the expiration date, or any future expiration date, until the period of required coverage is completed and the Contracting Officer provides the financial institution with a written statement waiving the right to payment. The period of required coverage shall be:

(i) For contracts subject to the Miller Act, the later of--

(A) One year following the expected date of final payment;

(B) For performance bonds only, until completion of any warranty period; or

(C) For payment bonds only, until resolution of all claims filed against the payment bond during the one-year period following final payment.

(ii) For contracts not subject to the Miller Act, the later of--

(A) 90 days following final payment; or

(B) For performance bonds only, until completion of any warranty period.

(d) Only federally insured financial institutions rated investment grade or higher shall issue or confirm the ILC. The offeror/Contractor shall provide the Contracting Officer a credit rating that indicates the financial institution has the required rating(s) as of the date of issuance of the ILC. Unless the financial institution issuing the ILC had letter of credit business of less than \$25 million in the past year, ILCs over \$5 million must be confirmed by another acceptable financial institution that had letter of credit business of less than \$25 million in the past year.

(e) The following format shall be used by the issuing financial institution to create an ILC:

-----  
[Issuing Financial Institution's Letterhead or Name and Address]

Issue Date \_\_\_\_\_

IRREVOCABLE LETTER OF CREDIT NO. \_\_\_\_\_

Account party's name \_\_\_\_\_

Account party's address \_\_\_\_\_

For Solicitation No. \_\_\_\_\_(for reference only)

TO: [U.S. Government agency]

[U.S. Government agency's address]

1. We hereby establish this irrevocable and transferable Letter of Credit in your favor for one or more drawings up to United States \$\_\_\_\_\_. This Letter of Credit is payable at [issuing financial institution's and, if any, confirming financial institution's] office at [issuing financial institution's address and, if any, confirming financial institution's address] and expires with our close of business on \_\_\_\_\_, or any automatically extended expiration date.

2. We hereby undertake to honor your or the transferee's sight draft(s) drawn on the issuing or, if any, the confirming financial institution, for all or any part of this credit if presented with this Letter of Credit and confirmation, if any, at the office specified in paragraph 1 of this Letter of Credit on or before the expiration date or any automatically extended expiration date.

3. [This paragraph is omitted if used as a bid guarantee, and subsequent paragraphs are renumbered.] It is a condition of this Letter of Credit that it is deemed to be automatically extended without amendment for one year from the expiration date hereof, or any future expiration date, unless at least 60 days prior to any expiration date, we notify you or the transferee by registered mail, or other receipted means of delivery, that we elect not to consider this Letter of Credit renewed for any such additional period. At the time we notify you, we also agree to notify the account party (and confirming financial institution, if any) by the same means of delivery.

4. This Letter of Credit is transferable. Transfers and assignments of proceeds are to be effected without charge to either the beneficiary or the transferee/assignee of proceeds. Such transfer or assignment shall be only at the written direction of the Government (the beneficiary) in a form satisfactory to the issuing financial institution and the confirming financial institution, if any.

5. This Letter of Credit is subject to the Uniform Customs and Practice (UCP) for Documentary Credits, 1993 Revision, International Chamber of Commerce Publication No. 500, and to the extent not inconsistent therewith, to the laws of \_\_\_\_\_ [state of confirming financial institution, if any, otherwise state of issuing financial institution].

6. If this credit expires during an interruption of business of this financial institution as described in Article 17 of the UCP, the financial institution specifically agrees to effect payment if this credit is drawn against within 30 days after the resumption of our business.

Sincerely,

\_\_\_\_\_

[Issuing financial institution]

(f) The following format shall be used by the financial institution to confirm an ILC:

\_\_\_\_\_ [Confirming Financial Institution's Letterhead or Name and Address]

(Date) \_\_\_\_\_

Our Letter of Credit Advice Number \_\_\_\_\_

Beneficiary: \_\_\_\_\_ [U.S. Government agency]

Issuing Financial Institution: \_\_\_\_\_

Issuing Financial Institution's LC No.: \_\_\_\_\_

Gentlemen:

1. We hereby confirm the above indicated Letter of Credit, the original of which is attached, issued by \_\_\_\_\_ [name of issuing financial institution] for drawings of up to United States dollars \_\_\_\_\_/U.S. \$\_\_\_\_\_ and expiring with our close of business on \_\_\_\_\_ [the expiration date], or any automatically extended expiration date.

2. Draft(s) drawn under the Letter of Credit and this Confirmation are payable at our office located at \_\_\_\_\_.

3. We hereby undertake to honor sight draft(s) drawn under and presented with the Letter of Credit and this Confirmation at our offices as specified herein.

4. [This paragraph is omitted if used as a bid guarantee, and subsequent paragraphs are renumbered.] It is a condition of this confirmation that it be deemed automatically extended without amendment for one year from the expiration date hereof, or any automatically extended expiration date, unless:

(a) At least 60 days prior to any such expiration date, we shall notify the Contracting Officer, or the transferee and the

issuing financial institution, by registered mail or other receipted means of delivery, that we elect not to consider this confirmation extended for any such additional period; or

(b) The issuing financial institution shall have exercised its right to notify you or the transferee, the account party, and ourselves, of its election not to extend the expiration date of the Letter of Credit.

5. This confirmation is subject to the Uniform Customs and Practice (UCP) for Documentary Credits, 1993 Revision, International Chamber of Commerce Publication No. 500, and to the extent not inconsistent therewith, to the laws of \_\_\_\_\_ [state of confirming financial institution].

6. If this confirmation expires during an interruption of business of this financial institution as described in Article 17 of the UCP, we specifically agree to effect payment if this credit is drawn against within 30 days after the resumption of our business.

Sincerely,

\_\_\_\_\_

[Confirming financial institution]

(g) The following format shall be used by the Contracting Officer for a sight draft to draw on the Letter of Credit:

SIGHT DRAFT

\_\_\_\_\_

[City, State]

(Date) \_\_\_\_\_

[Name and address of financial institution]

Pay to the order of \_\_\_\_\_ [Beneficiary Agency] \_\_\_\_\_ the sum of United States \$ \_\_\_\_\_. This draft is drawn under Irrevocable Letter of Credit No.

\_\_\_\_\_.

\_\_\_\_\_

[Beneficiary Agency]

By: \_\_\_\_\_

(End of clause)

**52.228-15 PERFORMANCE AND PAYMENT BONDS--CONSTRUCTION (JUL 2000)-**

(a) Definitions. As used in this clause--

Original contract price means the award price of the contract; or, for requirements contracts, the price payable for the estimated total quantity; or, for indefinite-quantity contracts, the price payable for the specified minimum quantity.

Original contract price does not include the price of any options, except those options exercised at the time of contract award.

(b) Amount of required bonds. Unless the resulting contract price is \$100,000 or less, the successful offeror shall furnish performance and payment bonds to the Contracting Officer as follows:

(1) Performance bonds (Standard Form 25). The penal amount of performance bonds at the time of contract award shall be 100 percent of the original contract price.

(2) Payment Bonds (Standard Form 25-A). The penal amount of payment bonds at the time of contract award shall be 100 percent of the original contract price.

(3) Additional bond protection. (i) The Government may require additional performance and payment bond protection if the contract price is increased. The increase in protection generally will equal 100 percent of the increase in contract price.

(ii) The Government may secure the additional protection by directing the Contractor to increase the penal amount of the existing bond or to obtain an additional bond.

(c) Furnishing executed bonds. The Contractor shall furnish all executed bonds, including any necessary reinsurance agreements, to the Contracting Officer, within the time period specified in the Bid Guarantee provision of the solicitation, or otherwise specified by the Contracting Officer, but in any event, before starting work.

(d) Surety or other security for bonds. The bonds shall be in the form of firm commitment, supported by corporate sureties whose names appear on the list contained in Treasury Department Circular 570, individual sureties, or by other acceptable security such as postal money order, certified check, cashier's check, irrevocable letter of credit, or, in accordance with Treasury Department regulations, certain bonds or notes of the United States. Treasury Circular 570 is published in the Federal Register or may be obtained from the U.S. Department of Treasury, Financial Management Service, Surety Bond Branch, 401 14th Street, NW, 2nd Floor, West Wing, Washington, DC 20227.

(e) Notice of subcontractor waiver of protection (40 U.S.C. 270b(c)). Any waiver of the right to sue on the payment bond is void unless it is in writing, signed by the person whose right is waived, and executed after such person has first furnished labor or material for use in the performance of the contract.

(End of clause)

### **52.229-3 FEDERAL, STATE, AND LOCAL TAXES (APR 2003)**

(a) As used in this clause--

"Contract date" means the date set for bid opening or, if this is a negotiated contract or a modification, the effective date of this contract or modification.

"All applicable Federal, State, and local taxes and duties" means all taxes and duties, in effect on the contract date, that the taxing authority is imposing and collecting on the transactions or property covered by this contract.

"After-imposed Federal tax" means any new or increased Federal excise tax or duty, or tax that was exempted or excluded on the contract date but whose exemption was later revoked or reduced during the contract period, on the transactions or property covered by this contract that the Contractor is required to pay or bear as the result of legislative, judicial, or administrative action taking effect after the contract date. It does not include social security tax or other employment taxes.

"After-relieved Federal tax" means any amount of Federal excise tax or duty, except social security or other employment taxes, that would otherwise have been payable on the transactions or property covered by this contract, but which the Contractor is not required to pay or bear, or for which the Contractor obtains a refund or drawback, as the result of legislative, judicial, or administrative action taking effect after the contract date.

Local taxes includes taxes imposed by a possession or territory of the United States, Puerto Rico, or the Northern Mariana Islands, if the contract is performed wholly or partly in any of those areas.

(b) The contract price includes all applicable Federal, State, and local taxes and duties.

(c) The contract price shall be increased by the amount of any after-imposed Federal tax, provided the Contractor warrants in writing that no amount for such newly imposed Federal excise tax or duty or rate increase was included in the contract price, as a contingency reserve or otherwise.

(d) The contract price shall be decreased by the amount of any after-relieved Federal tax.

(e) The contract price shall be decreased by the amount of any Federal excise tax or duty, except social security or other employment taxes, that the Contractor is required to pay or bear, or does not obtain a refund of, through the Contractor's fault, negligence, or failure to follow instructions of the Contracting Officer.

(f) No adjustment shall be made in the contract price under this clause unless the amount of the adjustment exceeds \$250.

(g) The Contractor shall promptly notify the Contracting Officer of all matters relating to any Federal excise tax or duty that reasonably may be expected to result in either an increase or decrease in the contract price and shall take appropriate action as the Contracting Officer directs.

(h) The Government shall, without liability, furnish evidence appropriate to establish exemption from any Federal, State, or local tax when the Contractor requests such evidence and a reasonable basis exists to sustain the exemption.

(End of clause)

#### **52.232-5 PAYMENTS UNDER FIXED-PRICE CONSTRUCTION CONTRACTS (SEP 2002)**

(a) Payment of price. The Government shall pay the Contractor the contract price as provided in this contract.

(b) Progress payments. The Government shall make progress payments monthly as the work proceeds, or at more frequent intervals as determined by the Contracting Officer, on estimates of work accomplished which meets the standards of quality established under the contract, as approved by the Contracting Officer.

(1) The Contractor's request for progress payments shall include the following substantiation:

(i) An itemization of the amounts requested, related to the various elements of work required by the contract covered by the payment requested.

(ii) A listing of the amount included for work performed by each subcontractor under the contract.

(iii) A listing of the total amount of each subcontract under the contract.

(iv) A listing of the amounts previously paid to each such subcontractor under the contract.

(v) Additional supporting data in a form and detail required by the Contracting Officer.

(2) In the preparation of estimates, the Contracting Officer may authorize material delivered on the site and preparatory work done to be taken into consideration. Material delivered to the Contractor at locations other than the site also may be taken into consideration if--

(i) Consideration is specifically authorized by this contract; and

(ii) The Contractor furnishes satisfactory evidence that it has acquired title to such material and that the material will be used to perform this contract.

(c) Contractor certification. Along with each request for progress payments, the Contractor shall furnish the following certification, or payment shall not be made: (However, if the Contractor elects to delete paragraph (c)(4) from the certification, the certification is still acceptable.)

I hereby certify, to the best of my knowledge and belief, that--

(1) The amounts requested are only for performance in accordance with the specifications, terms, and conditions of the contract;

(2) All payments due to subcontractors and suppliers from previous payments received under the contract have been made, and timely payments will be made from the proceeds of the payment covered by this certification, in accordance with subcontract agreements and the requirements of chapter 39 of Title 31, United States Code;

(3) This request for progress payments does not include any amounts which the prime contractor intends to withhold or retain from a subcontractor or supplier in accordance with the terms and conditions of the subcontract; and

(4) This certification is not to be construed as final acceptance of a subcontractor's performance.

\_\_\_\_\_

(Name)

\_\_\_\_\_

(Title)

\_\_\_\_\_

(Date)

(d) Refund of unearned amounts. If the Contractor, after making a certified request for progress payments, discovers that a portion or all of such request constitutes a payment for performance by the Contractor that fails to conform to the specifications, terms, and conditions of this contract (hereinafter referred to as the "unearned amount"), the Contractor shall--

(1) Notify the Contracting Officer of such performance deficiency; and

(2) Be obligated to pay the Government an amount (computed by the Contracting Officer in the manner provided in paragraph (j) of this clause) equal to interest on the unearned amount from the 8th day after the date of receipt of the unearned amount until--

- (i) The date the Contractor notifies the Contracting Officer that the performance deficiency has been corrected; or
- (ii) The date the Contractor reduces the amount of any subsequent certified request for progress payments by an amount equal to the unearned amount.

(e) Retainage. If the Contracting Officer finds that satisfactory progress was achieved during any period for which a progress payment is to be made, the Contracting Officer shall authorize payment to be made in full. However, if satisfactory progress has not been made, the Contracting Officer may retain a maximum of 10 percent of the amount of the payment until satisfactory progress is achieved. When the work is substantially complete, the Contracting Officer may retain from previously withheld funds and future progress payments that amount the Contracting Officer considers adequate for protection of the Government and shall release to the Contractor all the remaining withheld funds. Also, on completion and acceptance of each separate building, public work, or other division of the contract, for which the price is stated separately in the contract, payment shall be made for the completed work without retention of a percentage.

(f) Title, liability, and reservation of rights. All material and work covered by progress payments made shall, at the time of payment, become the sole property of the Government, but this shall not be construed as--

(1) Relieving the Contractor from the sole responsibility for all material and work upon which payments have been made or the restoration of any damaged work; or

(2) Waiving the right of the Government to require the fulfillment of all of the terms of the contract.

(g) Reimbursement for bond premiums. In making these progress payments, the Government shall, upon request, reimburse the Contractor for the amount of premiums paid for performance and payment bonds (including coinsurance and reinsurance agreements, when applicable) after the Contractor has furnished evidence of full payment to the surety. The retainage provisions in paragraph (e) of this clause shall not apply to that portion of progress payments attributable to bond premiums.

(h) Final payment. The Government shall pay the amount due the Contractor under this contract after--

(1) Completion and acceptance of all work;

(2) Presentation of a properly executed voucher; and

(3) Presentation of release of all claims against the Government arising by virtue of this contract, other than claims, in stated amounts, that the Contractor has specifically excepted from the operation of the release. A release may also be required of the assignee if the Contractor's claim to amounts payable under this contract has been assigned under the Assignment of Claims Act of 1940 (31 U.S.C. 3727 and 41 U.S.C. 15).

(i) Limitation because of undefinitized work. Notwithstanding any provision of this contract, progress payments shall not exceed 80 percent on work accomplished on undefinitized contract actions. A "contract action" is any action resulting in a contract, as defined in FAR Subpart 2.1, including contract modifications for additional supplies or services, but not including contract modifications that are within the scope and under the terms of the contract, such as contract modifications issued pursuant to the Changes clause, or funding and other administrative changes.

(j) Interest computation on unearned amounts. In accordance with 31 U.S.C. 3903(c)(1), the amount payable under subparagraph (d)(2) of this clause shall be--

(1) Computed at the rate of average bond equivalent rates of 91-day Treasury bills auctioned at the most recent auction of such bills prior to the date the Contractor receives the unearned amount; and



(2) Deducted from the next available payment to the Contractor.

(End of clause)

**52.232-17 INTEREST (JUNE 1996)**

(a) Except as otherwise provided in this contract under a Price Reduction for Defective Cost or Pricing Data clause or a Cost Accounting Standards clause, all amounts that become payable by the Contractor to the Government under this contract (net of any applicable tax credit under the Internal Revenue Code (26 U.S.C. 1481)) shall bear simple interest from the date due until paid unless paid within 30 days of becoming due. The interest rate shall be the interest rate established by the Secretary of the Treasury as provided in Section 12 of the Contract Disputes Act of 1978 (Public Law 95-563), which is applicable to the period in which the amount becomes due, as provided in paragraph (b) of this clause, and then at the rate applicable for each six-month period as fixed by the Secretary until the amount is paid. reproduce, prepare derivative works, distribute copies to the public, and (b) Amounts shall be due at the earliest of the following dates:

(1) The date fixed under this contract.

(2) The date of the first written demand for payment consistent with this contract, including any demand resulting from a default termination.

(3) The date the Government transmits to the Contractor a proposed supplemental agreement to confirm completed negotiations establishing the amount of debt.

(4) If this contract provides for revision of prices, the date of written notice to the Contractor stating the amount of refund payable in connection with a pricing proposal or a negotiated pricing agreement not confirmed by contract modification.

(c) The interest charge made under this clause may be reduced under the procedures prescribed in 32.614-2 of the Federal Acquisition Regulation in effect on the date of this contract.

(End of clause)

**52.232-23 ASSIGNMENT OF CLAIMS (JAN 1986) - ALTERNATE I (APR 1984)**

(a) The Contractor, under the Assignment of Claims Act, as amended, 31 U.S.C. 3727, 41 U.S.C. 15 (hereafter referred to as "the Act"), may assign its rights to be paid amounts due or to become due as a result of the performance of this contract to a bank, trust company, or other financing institution, including any Federal lending agency. The assignee under such an assignment may thereafter further assign or reassign its right under the original assignment to any type of financing institution described in the preceding sentence. Unless otherwise stated in this contract, payments to an assignee of any amounts due or to become due under this contract shall not, to the extent specified in the Act, be subject to reduction or setoff.

(b) Any assignment or reassignment authorized under the Act and this clause shall cover all unpaid amounts payable under this contract, and shall not be made to more than one party, except that an assignment or reassignment may be made to one party as agent or trustee for two or more parties participating in the financing of this contract.

(c) The Contractor shall not furnish or disclose to any assignee under this contract any classified document (including this contract) or information related to work under this contract until the Contracting Officer authorizes such action in writing.

(End of clause)

**52.232-27 *PROMPT PAYMENT FOR CONSTRUCTION CONTRACTS (OCT 2003)***

Notwithstanding any other payment terms in this contract, the Government will make invoice payments under the terms and conditions specified in this clause. The Government considers payment as being made on the day a check is dated or the date of an electronic funds transfer. Definitions of pertinent terms are set forth in sections 2.101, 32.001, and 32.902 of the Federal Acquisition Regulation. All days referred to in this clause are calendar days, unless otherwise specified. (However, see paragraph (a)(3) concerning payments due on Saturdays, Sundays, and legal holidays.)

(a) Invoice payments--(1) Types of invoice payments. For purposes of this clause, there are several types of invoice payments that may occur under this contract, as follows:

(i) Progress payments, if provided for elsewhere in this contract, based on Contracting Officer approval of the estimated amount and value of work or services performed, including payments for reaching milestones in any project.

(A) The due date for making such payments is 14 days after the designated billing office receives a proper payment request. If the designated billing office fails to annotate the payment request with the actual date of receipt at the time of receipt, the payment due date is the 14th day after the date of the Contractor's payment request, provided the designated billing office receives a proper payment request and there is no disagreement over quantity, quality, or Contractor compliance with contract requirements.

(B) The due date for payment of any amounts retained by the Contracting Officer in accordance with the clause at 52.232-5, Payments Under Fixed-Price Construction Contracts, is as specified in the contract or, if not specified, 30 days after approval by the Contracting Officer for release to the Contractor.

(ii) Final payments based on completion and acceptance of all work and presentation of release of all claims against the Government arising by virtue of the contract, and payments for partial deliveries that have been accepted by the Government (e.g., each separate building, public work, or other division of the contract for which the price is stated separately in the contract).

(A) The due date for making such payments is the later of the following two events:

(1) The 30th day after the designated billing office receives a proper invoice from the Contractor.

(2) The 30th day after Government acceptance of the work or services completed by the Contractor. For a final invoice when the payment amount is subject to contract settlement actions (e.g., release of claims), acceptance is deemed to occur on the effective date of the contract settlement.

(B) If the designated billing office fails to annotate the invoice with the date of actual receipt at the time of receipt, the invoice payment due date is the 30th day after the date of the Contractor's invoice, provided the designated billing office receives a proper invoice and there is no disagreement over quantity, quality, or Contractor compliance with contract requirements.

(2) Contractor's invoice. The Contractor shall prepare and submit invoices to the designated billing office specified in the contract. A proper invoice must include the items listed in paragraphs (a)(2)(i) through (a)(2)(xi) of this clause. If the invoice does not comply with these requirements, the designated billing office must return it within 7 days after receipt, with the reasons why it is not a proper invoice. When computing any interest penalty owed the Contractor,

the Government will take into account if the Government notifies the Contractor of an improper invoice in an untimely manner.

(i) Name and address of the Contractor.

(ii) Invoice date and invoice number. (The Contractor should date invoices as close as possible to the date of mailing or transmission.)

(iii) Contract number or other authorization for work or services performed (including order number and contract line item number).

(iv) Description of work or services performed.

(v) Delivery and payment terms (e.g., discount for prompt payment terms).

(vi) Name and address of Contractor official to whom payment is to be sent (must be the same as that in the contract or in a proper notice of assignment).

(vii) Name (where practicable), title, phone number, and mailing address of person to notify in the event of a defective invoice.

(viii) For payments described in paragraph (a)(1)(i) of this clause, substantiation of the amounts requested and certification in accordance with the requirements of the clause at 52.232-5, Payments Under Fixed-Price Construction Contracts.

(ix) Taxpayer Identification Number (TIN). The Contractor shall include its TIN on the invoice only if required elsewhere in this contract.

(x) Electronic funds transfer (EFT) banking information.

(A) The Contractor shall include EFT banking information on the invoice only if required elsewhere in this contract.

(B) If EFT banking information is not required to be on the invoice, in order for the invoice to be a proper invoice, the Contractor shall have submitted correct EFT banking information in accordance with the applicable solicitation provision (e.g., 52.232-38, Submission of Electronic Funds Transfer Information with Offer), contract clause (e.g., 52.232-33, Payment by Electronic Funds Transfer--Central Contractor Registration, or 52.232-34, Payment by Electronic Funds Transfer--Other Than Central Contractor Registration), or applicable agency procedures.

(C) EFT banking information is not required if the Government waived the requirement to pay by EFT.

(xi) Any other information or documentation required by the contract.

(3) Interest penalty. The designated payment office will pay an interest penalty automatically, without request from the Contractor, if payment is not made by the due date and the conditions listed in paragraphs (a)(3)(i) through (a)(3)(iii) of this clause are met, if applicable. However, when the due date falls on a Saturday, Sunday, or legal holiday, the designated payment office may make payment on the following working day without incurring a late payment interest penalty.

(i) The designated billing office received a proper invoice.

(ii) The Government processed a receiving report or other Government documentation authorizing payment and there was no disagreement over quantity, quality, Contractor compliance with any contract term or condition, or requested progress payment amount.

(iii) In the case of a final invoice for any balance of funds due the Contractor for work or services performed, the amount was not subject to further contract settlement actions between the Government and the Contractor.

(4) Computing penalty amount. The Government will compute the interest penalty in accordance with the Office of Management and Budget prompt payment regulations at 5 CFR part 1315.

(i) For the sole purpose of computing an interest penalty that might be due the Contractor for payments described in paragraph (a)(1)(ii) of this clause, Government acceptance or approval is deemed to occur constructively on the 7th day after the Contractor has completed the work or services in accordance with the terms and conditions of the contract. If actual acceptance or approval occurs within the constructive acceptance or approval period, the Government will base the determination of an interest penalty on the actual date of acceptance or approval. Constructive acceptance or constructive approval requirements do not apply if there is a disagreement over quantity, quality, or Contractor compliance with a contract provision. These requirements also do not compel Government officials to accept work or services, approve Contractor estimates, perform contract administration functions, or make payment prior to fulfilling their responsibilities.

(ii) The prompt payment regulations at 5 CFR 1315.10(c) do not require the Government to pay interest penalties if payment delays are due to disagreement between the Government and the Contractor over the payment amount or other issues involving contract compliance, or on amounts temporarily withheld or retained in accordance with the terms of the contract. The Government and the Contractor shall resolve claims involving disputes, and any interest that may be payable in accordance with the clause at FAR 52.233-1, Disputes.

(5) Discounts for prompt payment. The designated payment office will pay an interest penalty automatically, without request from the Contractor, if the Government takes a discount for prompt payment improperly. The Government will calculate the interest penalty in accordance with the prompt payment regulations at 5 CFR part 1315.

(6) Additional interest penalty. (i) The designated payment office will pay a penalty amount, calculated in accordance with the prompt payment regulations at 5 CFR part 1315 in addition to the interest penalty amount only if--

(A) The Government owes an interest penalty of \$1 or more;

(B) The designated payment office does not pay the interest penalty within 10 days after the date the invoice amount is paid; and

(C) The Contractor makes a written demand to the designated payment office for additional penalty payment, in accordance with paragraph (a)(6)(ii) of this clause, postmarked not later than 40 days after the date the invoice amount is paid.

(ii)(A) The Contractor shall support written demands for additional penalty payments with the following data. The Government will not request any additional data. The Contractor shall--

(1) Specifically assert that late payment interest is due under a specific invoice, and request payment of all overdue late payment interest penalty and such additional penalty as may be required;

(2) Attach a copy of the invoice on which the unpaid late payment interest was due; and

(3) State that payment of the principal has been received, including the date of receipt.

(B) If there is no postmark or the postmark is illegible--

(1) The designated payment office that receives the demand will annotate it with the date of receipt provided the demand is received on or before the 40th day after payment was made; or

(2) If the designated payment office fails to make the required annotation, the Government will determine the demand's validity based on the date the Contractor has placed on the demand, provided such date is no later than the 40th day after payment was made.

(b) Contract financing payments. If this contract provides for contract financing, the Government will make contract financing payments in accordance with the applicable contract financing clause.

(c) Subcontract clause requirements. The Contractor shall include in each subcontract for property or services (including a material supplier) for the purpose of performing this contract the following:

(1) Prompt payment for subcontractors. A payment clause that obligates the Contractor to pay the subcontractor for satisfactory performance under its subcontract not later than 7 days from receipt of payment out of such amounts as are paid to the Contractor under this contract.

(2) Interest for subcontractors. An interest penalty clause that obligates the Contractor to pay to the subcontractor an interest penalty for each payment not made in accordance with the payment clause--

(i) For the period beginning on the day after the required payment date and ending on the date on which payment of the amount due is made; and

(ii) Computed at the rate of interest established by the Secretary of the Treasury, and published in the Federal Register, for interest payments under section 12 of the Contract Disputes Act of 1978 (41 U.S.C. 611) in effect at the time the Contractor accrues the obligation to pay an interest penalty.

(3) Subcontractor clause flowdown. A clause requiring each subcontractor to use:

(i) Include a payment clause and an interest penalty clause conforming to the standards set forth in paragraphs (c)(1) and (c)(2) of this clause in each of its subcontracts; and

(ii) Require each of its subcontractors to include such clauses in their subcontracts with each lower-tier subcontractor or supplier.

(d) Subcontract clause interpretation. The clauses required by paragraph (c) of this clause shall not be construed to impair the right of the Contractor or a subcontractor at any tier to negotiate, and to include in their subcontract, provisions that--

(1) Retainage permitted. Permit the Contractor or a subcontractor to retain (without cause) a specified percentage of each progress payment otherwise due to a subcontractor for satisfactory performance under the subcontract without incurring any obligation to pay a late payment interest penalty, in accordance with terms and conditions agreed to by the parties to the subcontract, giving such recognition as the parties deem appropriate to the ability of a subcontractor to furnish a performance bond and a payment bond;

(2) Withholding permitted. Permit the Contractor or subcontractor to make a determination that part or all of the subcontractor's request for payment may be withheld in accordance with the subcontract agreement; and

(3) Withholding requirements. Permit such withholding without incurring any obligation to pay a late payment penalty if--

(i) A notice conforming to the standards of paragraph (g) of this clause previously has been furnished to the subcontractor; and

(ii) The Contractor furnishes to the Contracting Officer a copy of any notice issued by a Contractor pursuant to paragraph (d)(3)(i) of this clause.

(e) Subcontractor withholding procedures. If a Contractor, after making a request for payment to the Government but before making a payment to a subcontractor for the subcontractor's performance covered by the payment request, discovers that all or a portion of the payment otherwise due such subcontractor is subject to withholding from the subcontractor in accordance with the subcontract agreement, then the Contractor shall--

(1) Subcontractor notice. Furnish to the subcontractor a notice conforming to the standards of paragraph (g) of this clause as soon as practicable upon ascertaining the cause giving rise to a withholding, but prior to the due date for subcontractor payment;

(2) Contracting Officer notice. Furnish to the Contracting Officer, as soon as practicable, a copy of the notice furnished to the subcontractor pursuant to paragraph (e)(1) of this clause;

(3) Subcontractor progress payment reduction. Reduce the subcontractor's progress payment by an amount not to exceed the amount specified in the notice of withholding furnished under paragraph (e)(1) of this clause;

(4) Subsequent subcontractor payment. Pay the subcontractor as soon as practicable after the correction of the identified subcontract performance deficiency, and--

(i) Make such payment within--

(A) Seven days after correction of the identified subcontract performance deficiency (unless the funds therefor must be recovered from the Government because of a reduction under paragraph

(e)(5)(i)) of this clause; or

(B) Seven days after the Contractor recovers such funds from the Government; or

(ii) Incur an obligation to pay a late payment interest penalty computed at the rate of interest established by the Secretary of the Treasury, and published in the Federal Register, for interest payments under section 12 of the Contracts Disputes Act of 1978 (41 U.S.C. 611) in effect at the time the Contractor accrues the obligation to pay an interest penalty;

(5) Notice to Contracting Officer. Notify the Contracting Officer upon--

(i) Reduction of the amount of any subsequent certified application for payment; or

(ii) Payment to the subcontractor of any withheld amounts of a progress payment, specifying--

(A) The amounts withheld under paragraph (e)(1) of this clause; and

(B) The dates that such withholding began and ended; and

(6) Interest to Government. Be obligated to pay to the Government an amount equal to interest on the withheld payments (computed in the manner provided in 31 U.S.C. 3903(c)(1)), from the 8th day after receipt of the withheld amounts from the Government until--

(i) The day the identified subcontractor performance deficiency is corrected; or

(ii) The date that any subsequent payment is reduced under paragraph (e)(5)(i) of this clause.

(f) Third-party deficiency reports--(1) Withholding from subcontractor. If a Contractor, after making payment to a first-tier subcontractor, receives from a supplier or subcontractor of the first-tier subcontractor (hereafter referred to as a "second-tier subcontractor") a written notice in accordance with section 2 of the Act of August 24, 1935 (40 U.S.C. 270b, Miller Act), asserting a deficiency in such first-tier subcontractor's performance under the contract for which the Contractor may be ultimately liable, and the Contractor determines that all or a portion of future payments otherwise due such first-tier subcontractor is subject to withholding in accordance with the subcontract agreement, the Contractor may, without incurring an obligation to pay an interest penalty under paragraph (e)(6) of this clause--

(i) Furnish to the first-tier subcontractor a notice conforming to the standards of paragraph (g) of this clause as soon as practicable upon making such determination; and

(ii) Withhold from the first-tier subcontractor's next available progress payment or payments an amount not to exceed the amount specified in the notice of withholding furnished under paragraph (f)(1)(i) of this clause.

(2) Subsequent payment or interest charge. As soon as practicable, but not later than 7 days after receipt of satisfactory written notification that the identified subcontract performance deficiency has been corrected, the Contractor shall--

(i) Pay the amount withheld under paragraph (f)(1)(ii) of this clause to such first-tier subcontractor; or

(ii) Incur an obligation to pay a late payment interest penalty to such first-tier subcontractor computed at the rate of interest established by the Secretary of the Treasury, and published in the Federal Register, for interest payments under section 12 of the Contracts Disputes Act of 1978 (41 U.S.C. 611) in effect at the time the Contractor accrues the obligation to pay an interest penalty.

(g) Written notice of subcontractor withholding. The Contractor shall issue a written notice of any withholding to a subcontractor (with a copy furnished to the Contracting Officer), specifying--

(1) The amount to be withheld;

(2) The specific causes for the withholding under the terms of the subcontract; and

(3) The remedial actions to be taken by the subcontractor in order to receive payment of the amounts withheld.

(h) Subcontractor payment entitlement. The Contractor may not request payment from the Government of any amount withheld or retained in accordance with paragraph (d) of this clause until such time as the Contractor has determined and certified to the Contracting Officer that the subcontractor is entitled to the payment of such amount.

(i) Prime-subcontractor disputes. A dispute between the Contractor and subcontractor relating to the amount or entitlement of a subcontractor to a payment or a late payment interest penalty under a clause included in the subcontract pursuant to paragraph (c) of this clause does not constitute a dispute to which the Government is a party. The Government may not be interpleaded in any judicial or administrative proceeding involving such a dispute.

(j) Preservation of prime-subcontractor rights. Except as provided in paragraph (i) of this clause, this clause shall not limit or impair any contractual, administrative, or judicial remedies otherwise available to the Contractor or a subcontractor in the event of a dispute involving late payment or nonpayment by the Contractor or deficient subcontract performance or nonperformance by a subcontractor.

(k) Non-recourse for prime contractor interest penalty. The Contractor's obligation to pay an interest penalty to a subcontractor pursuant to the clauses included in a subcontract under paragraph (c) of this clause shall not be construed to be an obligation of the Government for such interest penalty. A cost-reimbursement claim may not include any amount for reimbursement of such interest penalty.

(l) Overpayments. If the Contractor becomes aware of a duplicate contract financing or invoice payment or that the Government has otherwise overpaid on a contract financing or invoice payment, the Contractor shall immediately notify the Contracting Officer and request instructions for disposition of the overpayment.

(End of clause)

**52.232-33 PAYMENT BY ELECTRONIC FUNDS TRANSFER—CENTRAL CONTRACTOR REGISTRATION (OCT 2003)**

(a) Method of payment. (1) All payments by the Government under this contract shall be made by electronic funds transfer (EFT), except as provided in paragraph (a)(2) of this clause. As used in this clause, the term “EFT” refers to the funds transfer and may also include the payment information transfer.

(2) In the event the Government is unable to release one or more payments by EFT, the Contractor agrees to either--

(i) Accept payment by check or some other mutually agreeable method of payment; or

(ii) Request the Government to extend the payment due date until such time as the Government can make payment by EFT (but see paragraph (d) of this clause).

(b) Contractor's EFT information. The Government shall make payment to the Contractor using the EFT information contained in the Central Contractor Registration (CCR) database. In the event that the EFT information changes, the Contractor shall be responsible for providing the updated information to the CCR database.

(c) Mechanisms for EFT payment. The Government may make payment by EFT through either the Automated Clearing House (ACH) network, subject to the rules of the National Automated Clearing House Association, or the Fedwire Transfer System. The rules governing Federal payments through the ACH are contained in 31 CFR part 210.

(d) Suspension of payment. If the Contractor's EFT information in the CCR database is incorrect, then the Government need not make payment to the Contractor under this contract until correct EFT information is entered into the CCR database; and any invoice or contract financing request shall be deemed not to be a proper invoice for the purpose of prompt payment under this contract. The prompt payment terms of the contract regarding notice of an improper invoice and delays in accrual of interest penalties apply.

(e) Liability for uncompleted or erroneous transfers. (1) If an uncompleted or erroneous transfer occurs because the Government used the Contractor's EFT information incorrectly, the Government remains responsible for--

(i) Making a correct payment;

(ii) Paying any prompt payment penalty due; and

(iii) Recovering any erroneously directed funds.

(2) If an uncompleted or erroneous transfer occurs because the Contractor's EFT information was incorrect, or was revised within 30 days of Government release of the EFT payment transaction instruction to the Federal Reserve System, and--

(i) If the funds are no longer under the control of the payment office, the Government is deemed to have made payment and the Contractor is responsible for recovery of any erroneously directed funds; or



(ii) If the funds remain under the control of the payment office, the Government shall not make payment, and the provisions of paragraph (d) of this clause shall apply.

(f) EFT and prompt payment. A payment shall be deemed to have been made in a timely manner in accordance with the prompt payment terms of this contract if, in the EFT payment transaction instruction released to the Federal Reserve System, the date specified for settlement of the payment is on or before the prompt payment due date, provided the specified payment date is a valid date under the rules of the Federal Reserve System.

(g) EFT and assignment of claims. If the Contractor assigns the proceeds of this contract as provided for in the assignment of claims terms of this contract, the Contractor shall require as a condition of any such assignment, that the assignee shall register separately in the CCR database and shall be paid by EFT in accordance with the terms of this clause. Notwithstanding any other requirement of this contract, payment to an ultimate recipient other than the Contractor, or a financial institution properly recognized under an assignment of claims pursuant to subpart 32.8, is not permitted. In all respects, the requirements of this clause shall apply to the assignee as if it were the Contractor. EFT information that shows the ultimate recipient of the transfer to be other than the Contractor, in the absence of a proper assignment of claims acceptable to the Government, is incorrect EFT information within the meaning of paragraph (d) of this clause.

(h) Liability for change of EFT information by financial agent. The Government is not liable for errors resulting from changes to EFT information made by the Contractor's financial agent.

(i) Payment information. The payment or disbursing office shall forward to the Contractor available payment information that is suitable for transmission as of the date of release of the EFT instruction to the Federal Reserve System. The Government may request the Contractor to designate a desired format and method(s) for delivery of payment information from a list of formats and methods the payment office is capable of executing. However, the Government does not guarantee that any particular format or method of delivery is available at any particular payment office and retains the latitude to use the format and delivery method most convenient to the Government. If the Government makes payment by check in accordance with paragraph (a) of this clause, the Government shall mail the payment information to the remittance address contained in the CCR database.

(End of Clause)

#### **52.233-1 DISPUTES. (JUL 2002)**

(a) This contract is subject to the Contract Disputes Act of 1978, as amended (41 U.S.C. 601-613).

(b) Except as provided in the Act, all disputes arising under or relating to this contract shall be resolved under this clause.

(c) Claim, as used in this clause, means a written demand or written assertion by one of the contracting parties seeking, as a matter of right, the payment of money in a sum certain, the adjustment or interpretation of contract terms, or other relief arising under or relating to this contract. However, a written demand or written assertion by the Contractor seeking the payment of money exceeding \$100,000 is not a claim under the Act until certified. A voucher, invoice, or other routine request for payment that is not in dispute when submitted is not a claim under the Act. The submission may be converted to a claim under the Act, by complying with the submission and certification requirements of this clause, if it is disputed either as to liability or amount or is not acted upon in a reasonable time.

(d)(1) A claim by the Contractor shall be made in writing and, unless otherwise stated in this contract, submitted within 6 years after accrual of the claim to the Contracting Officer for a written decision. A claim by the Government against the Contractor shall be subject to a written decision by the Contracting Officer.

(2)(i) The contractors shall provide the certification specified in subparagraph (d)(2)(iii) of this clause when submitting any claim -

(A) Exceeding \$100,000; or

(B) Regardless of the amount claimed, when using -

(1) Arbitration conducted pursuant to 5 U.S.C. 575-580; or

(2) Any other alternative means of dispute resolution (ADR) technique that the agency elects to handle in accordance with the Administrative Dispute Resolution Act (ADRA).

(ii) The certification requirement does not apply to issues in controversy that have not been submitted as all or part of a claim.

(iii) The certification shall state as follows: "I certify that the claim is made in good faith; that the supporting data are accurate and complete to the best of my knowledge and belief; that the amount requested accurately reflects the contract adjustment for which the Contractor believes the Government is liable; and that I am duly authorized to certify the claim on behalf of the Contractor.

(3) The certification may be executed by any person duly authorized to bind the Contractor with respect to the claim.

(e) For Contractor claims of \$100,000 or less, the Contracting Officer must, if requested in writing by the Contractor, render a decision within 60 days of the request. For Contractor-certified claims over \$100,000, the Contracting Officer must, within 60 days, decide the claim or notify the Contractor of the date by which the decision will be made.

(f) The Contracting Officer's decision shall be final unless the Contractor appeals or files a suit as provided in the Act.

(g) If the claim by the Contractor is submitted to the Contracting Officer or a claim by the Government is presented to the Contractor, the parties, by mutual consent, may agree to use alternative dispute resolution (ADR). If the Contractor refuses an offer for ADR, the Contractor shall inform the Contracting Officer, in writing, of the Contractor's specific reasons for rejecting the request.

(h) The Government shall pay interest on the amount found due and unpaid from (1) the date the Contracting Officer receives the claim (certified, if required); or (2) the date that payment otherwise would be due, if that date is later, until the date of payment. With regard to claims having defective certifications, as defined in (FAR) 48 CFR 33.201, interest shall be paid from the date that the Contracting Officer initially receives the claim. Simple interest on claims shall be paid at the rate, fixed by the Secretary of the Treasury as provided in the Act, which is applicable to the period during which the Contracting Officer receives the claim and then at the rate applicable for each 6-month period as fixed by the Treasury Secretary during the pendency of the claim.

(i) The Contractor shall proceed diligently with performance of this contract, pending final resolution of any request for relief, claim, appeal, or action arising under the contract, and comply with any decision of the Contracting Officer.

(End of clause)

### **52.233-3 PROTEST AFTER AWARD (AUG. 1996)**

(a) Upon receipt of a notice of protest (as defined in FAR 33.101) or a determination that a protest is likely (see FAR 33.102(d)), the Contracting Officer may, by written order to the Contractor, direct the Contractor to stop performance

of the work called for by this contract. The order shall be specifically identified as a stop-work order issued under this clause. Upon receipt of the order, the Contractor shall immediately comply with its terms and take all reasonable steps to minimize the incurrence of costs allocable to the work covered by the order during the period of work stoppage. Upon receipt of the final decision in the protest, the Contracting Officer shall either--

(1) Cancel the stop-work order; or

(2) Terminate the work covered by the order as provided in the Default, or the Termination for Convenience of the Government, clause of this contract.

(b) If a stop-work order issued under this clause is canceled either before or after a final decision in the protest, the Contractor shall resume work. The Contracting Officer shall make an equitable adjustment in the delivery schedule or contract price, or both, and the contract shall be modified, in writing, accordingly, if--

(1) The stop-work order results in an increase in the time required for, or in the Contractor's cost properly allocable to, the performance of any part of this contract; and

(2) The Contractor asserts its right to an adjustment within 30 days after the end of the period of work stoppage; provided, that if the Contracting Officer decides the facts justify the action, the Contracting Officer may receive and act upon a proposal at any time before final payment under this contract.

(c) If a stop-work order is not canceled and the work covered by the order is terminated for the convenience of the Government, the Contracting Officer shall allow reasonable costs resulting from the stop-work order in arriving at the termination settlement.

(d) If a stop-work order is not canceled and the work covered by the order is terminated for default, the Contracting Officer shall allow, by equitable adjustment or otherwise, reasonable costs resulting from the stop-work order.

(e) The Government's rights to terminate this contract at any time are not affected by action taken under this clause.

(f) If, as the result of the Contractor's intentional or negligent misstatement, misrepresentation, or miscertification, a protest related to this contract is sustained, and the Government pays costs, as provided in FAR 33.102(b)(2) or 33.104(h)(1), the Government may require the Contractor to reimburse the Government the amount of such costs. In addition to any other remedy available, and pursuant to the requirements of Subpart 32.6, the Government may collect this debt by offsetting the amount against any payment due the Contractor under any contract between the Contractor and the Government.

(End of clause)

#### **52.236-1 PERFORMANCE OF WORK BY THE CONTRACTOR (APR 1984)**

The Contractor shall perform on the site, and with its own organization, work equivalent to at least 20 percent of the total amount of work to be performed under the contract. This percentage may be reduced by a supplemental agreement to this contract if, during performing the work, the Contractor requests a reduction and the Contracting Officer determines that the reduction would be to the advantage of the Government.

(End of clause)

#### **52.236-2 DIFFERING SITE CONDITIONS (APR 1984)**

As prescribed in 36.502, insert the following clause in solicitations and contracts when a fixed-price construction contract or a fixed-price dismantling, demolition, or removal of improvements contract is contemplated and the contract amount is expected to exceed the small purchase limitation. The Contracting Officer may insert the clause in solicitations and contracts when a fixed-price construction or a fixed-price contract for dismantling, demolition, or removal of improvements is contemplated and the contract amount is expected to be within the small purchase limitation.

(a) The Contractor shall promptly, and before the conditions are disturbed, give a written notice to the Contracting Officer of

(1) subsurface or latent physical conditions at the site which differ materially from those indicated in this contract, or

(2) unknown physical conditions at the site, of an unusual nature, which differ materially from those ordinarily encountered and generally recognized as inhering in work of the character provided for in the contract.

(b) The Contracting Officer shall investigate the site conditions promptly after receiving the notice. If the conditions do materially so differ and cause an increase or decrease in the Contractor's cost of, or the time required for, performing any part of the work under this contract, whether or not changed as a result of the conditions, an equitable adjustment shall be made under this clause and the contract modified in writing accordingly.

(c) No request by the Contractor for an equitable adjustment to the contract under this clause shall be allowed, unless the Contractor has given the written notice required; provided, that the time prescribed in (a) above for giving written notice may be extended by the Contracting Officer.

(d) No request by the Contractor for an equitable adjustment to the contract for differing site conditions shall be allowed if made after final payment under this contract.

(End of clause)

### **52.236-3 SITE INVESTIGATION AND CONDITIONS AFFECTING THE WORK (APR 1984)**

(a) The Contractor acknowledges that it has taken steps reasonably necessary to ascertain the nature and location of the work, and that it has investigated and satisfied itself as to the general and local conditions which can affect the work or its cost, including but not limited to

(1) conditions bearing upon transportation, disposal, handling, and storage of materials;

(2) the availability of labor, water, electric power, and roads;

(3) uncertainties of weather, river stages, tides, or similar physical conditions at the site;

(4) the conformation and conditions of the ground; and (5) the character of equipment and facilities needed preliminary to and during work performance. The Contractor also acknowledges that it has satisfied itself as to the character, quality, and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is reasonably ascertainable from an inspection of the site, including all exploratory work done by the Government, as well as from the drawings and specifications made a part of this contract. Any failure of the Contractor to take the actions described and acknowledged in this paragraph will not relieve the Contractor from responsibility for estimating properly the difficulty and cost of successfully performing the work, or for proceeding to successfully perform the work without additional expense to the Government.

(b) The Government assumes no responsibility for any conclusions or interpretations made by the Contractor based

on the information made available by the Government. Nor does the Government assume responsibility for any understanding reached or representation made concerning conditions which can affect the work by any of its officers or agents before the execution of this contract, unless that understanding or representation is expressly stated in this contract.

(End of clause)

**52.236-4 PHYSICAL DATA (APR 1984)**

Data and information furnished or referred to below is for the Contractor's information. The Government shall not be responsible for any interpretation of or conclusion drawn from the data or information by the Contractor.

(a) Weather conditions: Bidders should satisfy themselves before submitting bids as to hazards from weather conditions. Complete weather records and reports may be obtained from the local U.S. Weather Service.

(b) Transportation facilities: Before submitting a bid, bidders should obtain necessary data as to access of highway and railroad facilities. The unavailability of transportation facilities shall not become a basis for claims for damages or time for completion of work.

(c) River Conditions: Hydrographs of river stages are indicated on the drawings. These hydrographs include historic water levels and/or flows at the gauging stations.

(End of clause)

**52.236-5 MATERIAL AND WORKMANSHIP (APR 1984)**

(a) All equipment, material, and articles incorporated into the work covered by this contract shall be new and of the most suitable grade for the purpose intended, unless otherwise specifically provided in this contract. References in the specifications to equipment, material, articles, or patented processes by trade name, make, or catalog number, shall be regarded as establishing a standard of quality and shall not be construed as limiting competition. The Contractor may, at its option, use any equipment, material, article, or process that, in the judgment of the Contracting Officer, is equal to that named in the specifications, unless otherwise specifically provided in this contract.

(b) The Contractor shall obtain the Contracting Officer's approval of the machinery and mechanical and other equipment to be incorporated into the work. When requesting approval, the Contractor shall furnish to the Contracting Officer the name of the manufacturer, the model number, and other information concerning the performance, capacity, nature, and rating of the machinery and mechanical and other equipment. When required by this contract or by the Contracting Officer, the Contractor shall also obtain the Contracting Officer's approval of the material or articles which the Contractor contemplates incorporating into the work. When requesting approval, the Contractor shall provide full information concerning the material or articles. When directed to do so, the Contractor shall submit samples for approval at the Contractor's expense, with all shipping charges prepaid. Machinery, equipment, material, and articles that do not have the required approval shall be installed or used at the risk of subsequent rejection.

(c) All work under this contract shall be performed in a skillful and workmanlike manner. The Contracting Officer may require, in writing, that the Contractor remove from the work any employee the Contracting Officer deems incompetent, careless, or otherwise objectionable.

(End of clause)

**52.236-7 PERMITS AND RESPONSIBILITIES (NOV 1991)**

The Contractor shall, without additional expense to the Government, be responsible for obtaining any necessary licenses and permits, and for complying with any Federal, State, and municipal laws, codes, and regulations applicable to the performance of the work. The Contractor shall also be responsible for all damages to persons or property that occur as a result of the Contractor's fault or negligence. The Contractor shall also be responsible for all materials delivered and work performed until completion and acceptance of the entire work, except for any completed unit of work which may have been accepted under the contract.

(End of clause)

**52.236-8 OTHER CONTRACTS (APR 1984)**

The Government may undertake or award other contracts for additional work at or near the site of the work under this contract. The Contractor shall fully cooperate with the other contractors and with Government employees and shall carefully adapt scheduling and performing the work under this contract to accommodate the additional work, heeding any direction that may be provided by the Contracting Officer. The Contractor shall not commit or permit any act that will interfere with the performance of work by any other contractor or by Government employees.

(End of clause)

**52.236-9 PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS (APR 1984)**

(a) The Contractor shall preserve and protect all structures, equipment, and vegetation (such as trees, shrubs, and grass) on or adjacent to the work site, which are not to be removed and which do not unreasonably interfere with the work required under this contract. The Contractor shall only remove trees when specifically authorized to do so, and shall avoid damaging vegetation that will remain in place. If any limbs or branches of trees are broken during contract performance, or by the careless operation of equipment, or by workmen, the Contractor shall trim those limbs or branches with a clean cut and paint the cut with a tree-pruning compound as directed by the Contracting Officer.

(b) The Contractor shall protect from damage all existing improvements and utilities

(1) at or near the work site, and

(2) on adjacent property of a third party, the locations of which are made known to or should be known by the Contractor. The Contractor shall repair any damage to those facilities, including those that are the property of a third party, resulting from failure to comply with the requirements of this contract or failure to exercise reasonable care in performing the work. If the Contractor fails or refuses to repair the damage promptly, the Contracting Officer may have the necessary work performed and charge the cost to the Contractor.

(End of clause)

**52.236-10 OPERATIONS AND STORAGE AREAS (APR 1984)**

(a) The Contractor shall confine all operations (including storage of materials) on Government premises to areas authorized or approved by the Contracting Officer. The Contractor shall hold and save the Government, its officers and agents, free and harmless from liability of any nature occasioned by the Contractor's performance.

(b) Temporary buildings (e.g., storage sheds, shops, offices) and utilities may be erected by the Contractor only with the approval of the Contracting Officer and shall be built with labor and materials furnished by the Contractor without expense to the Government. The temporary buildings and utilities shall remain the property of the Contractor and shall be removed by the Contractor at its expense upon completion of the work. With the written consent of the Contracting Officer, the buildings and utilities may be abandoned and need not be removed.

(c) The Contractor shall, under regulations prescribed by the Contracting Officer, use only established roadways, or use temporary roadways constructed by the Contractor when and as authorized by the Contracting Officer. When materials are transported in prosecuting the work, vehicles shall not be loaded beyond the loading capacity recommended by the manufacturer of the vehicle or prescribed by any Federal, State, or local law or regulation. When it is necessary to cross curbs or sidewalks, the Contractor shall protect them from damage. The Contractor shall repair or pay for the repair of any damaged curbs, sidewalks, or roads.

(End of clause)

**52.236-11 USE AND POSSESSION PRIOR TO COMPLETION (APR 1984)**

(a) The Government shall have the right to take possession of or use any completed or partially completed part of the work. Before taking possession of or using any work, the Contracting Officer shall furnish the Contractor a list of items of work remaining to be performed or corrected on those portions of the work that the Government intends to take possession of or use. However, failure of the Contracting Officer to list any item of work shall not relieve the Contractor of responsibility for complying with the terms of the contract. The Government's possession or use shall not be deemed an acceptance of any work under the contract.

(b) While the Government has such possession or use, the Contractor shall be relieved of the responsibility for the loss of or damage to the work resulting from the Government's possession or use, notwithstanding the terms of the clause in this contract entitled "Permits and Responsibilities." If prior possession or use by the Government delays the progress of the work or causes additional expense to the Contractor, an equitable adjustment shall be made in the contract price or the time of completion, and the contract shall be modified in writing accordingly.

(End of clause)

**52.236-12 CLEANING UP (APR 1984)**

The Contractor shall at all times keep the work area, including storage areas, free from accumulations of waste materials. Before completing the work, the Contractor shall remove from the work and premises any rubbish, tools, scaffolding, equipment, and materials that are not the property of the Government. Upon completing the work, the Contractor shall leave the work area in a clean, neat, and orderly condition satisfactory to the Contracting Officer.

(End of clause)

**52.236-13 ACCIDENT PREVENTION (NOV 1991) – ALTERNATE I (NOV 1991)**

(a) The Contractor shall provide and maintain work environments and procedures which will

(1) safeguard the public and Government personnel, property, materials, supplies, and equipment exposed to Contractor operations and activities;

(2) avoid interruptions of Government operations and delays in project completion dates; and

(3) control costs in the performance of this contract.

(b) For these purposes on contracts for construction or dismantling, demolition, or removal of improvements, the Contractor shall-

(1) Provide appropriate safety barricades, signs, and signal lights;

(2) Comply with the standards issued by the Secretary of Labor at 29 CFR Part 1926 and 29 CFR Part 1910; and

(3) Ensure that any additional measures the Contracting Officer determines to be reasonably necessary for the purposes are taken.

(e) If this contract is for construction or dismantling, demolition or removal of improvements with any Department of Defense agency or component, the Contractor shall comply with all pertinent provisions of the latest version of U.S. Army Corps of Engineers Safety and Health Requirements Manual, EM 385-1-1, in effect on the date of the solicitation.

(1) Whenever the Contracting Officer becomes aware of any noncompliance with these requirements or any condition which poses a serious or imminent danger to the health or safety of the public or Government personnel, the Contracting Officer shall notify the Contractor orally, with written confirmation, and request immediate initiation of corrective action. This notice, when delivered to the Contractor or the Contractor's representative at the work site, shall be deemed sufficient notice of the noncompliance and that corrective action is required. After receiving the notice, the Contractor shall immediately take corrective action. If the Contractor fails or refuses to promptly take corrective action, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. The Contractor shall not be entitled to any equitable adjustment of the contract price or extension of the performance schedule on any stop work order issued under this clause.

(e) The Contractor shall insert this clause, including this paragraph (e), with appropriate changes in the designation of the parties, in subcontracts.

(f) Before commencing the work, the Contractor shall-

(1) Submit a written proposed plan for implementing this clause. The plan shall include an analysis of the significant hazards to life, limb, and property inherent in contract work performance and a plan for controlling these hazards; and

(2) Meet with representatives of the Contracting Officer to discuss and develop a mutual understanding relative to administration of the overall safety program.

(End of clause)

#### **52.236-15 SCHEDULES FOR CONSTRUCTION CONTRACTS (APR 1984)**

(a) The Contractor shall, within five days after the work commences on the contract or another period of time determined by the Contracting Officer, prepare and submit to the Contracting Officer for approval three copies of a practicable schedule showing the order in which the Contractor proposes to perform the work, and the dates on which the Contractor contemplates starting and completing the several salient features of the work (including acquiring materials, plant, and equipment). The schedule shall be in the form of a progress chart of suitable scale to indicate appropriately the percentage of work scheduled for completion by any given date during the period. If the Contractor fails to submit a schedule within the time prescribed, the Contracting Officer may withhold approval of



progress payments until the Contractor submits the required schedule.

(b) The Contractor shall enter the actual progress on the chart as directed by the Contracting Officer, and upon doing so shall immediately deliver three copies of the annotated schedule to the Contracting Officer. If, in the opinion of the Contracting Officer, the Contractor falls behind the approved schedule, the Contractor shall take steps necessary to improve its progress, including those that may be required by the Contracting Officer, without additional cost to the Government. In this circumstance, the Contracting Officer may require the Contractor to increase the number of shifts, overtime operations, days of work, and/or the amount of construction plant, and to submit for approval any supplementary schedule or schedules in chart form as the Contracting Officer deems necessary to demonstrate how the approved rate of progress will be regained.

(c) Failure of the Contractor to comply with the requirements of the Contracting Officer under this clause shall be grounds for a determination by the Contracting Officer that the Contractor is not prosecuting the work with sufficient diligence to ensure completion within the time specified in the contract. Upon making this determination, the Contracting Officer may terminate the Contractor's right to proceed with the work, or any separable part of it, in accordance with the default terms of this contract.

(End of clause)

#### **52.236-17 LAYOUT OF WORK (APR 1984)**

The Contractor shall lay out its work from Government established base lines and bench marks indicated on the drawings, and shall be responsible for all measurements in connection with the layout. The Contractor shall furnish, at its own expense, all stakes, templates, platforms, equipment, tools, materials, and labor required to lay out any part of the work. The Contractor shall be responsible for executing the work to the lines and grades that may be established or indicated by the Contracting Officer. The Contractor shall also be responsible for maintaining and preserving all stakes and other marks established by the Contracting Officer until authorized to remove them. If such marks are destroyed by the Contractor or through its negligence before their removal is authorized, the Contracting Officer may replace them and deduct the expense of the replacement from any amounts due or to become due to the Contractor.

(End of clause)

#### **52.236-21 SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION (FEB 1997)**

(a) The Contractor shall keep on the work site a copy of the drawings and specifications and shall at all times give the Contracting Officer access thereto. Anything mentioned in the specifications and not shown on the drawings, or shown on the drawings and not mentioned in the specifications, shall be of like effect as if shown or mentioned in both. In case of difference between drawings and specifications, the specifications shall govern. In case of discrepancy in the figures, in the drawings, or in the specifications, the matter shall be promptly submitted to the Contracting Officer, who shall promptly make a determination in writing. Any adjustment by the Contractor without such a determination shall be at its own risk and expense. The Contracting Officer shall furnish from time to time such detailed drawings and other information as considered necessary, unless otherwise provided.

(b) Wherever in the specifications or upon the drawings the words "directed", "required", "ordered", "designated", "prescribed", or words of like import are used, it shall be understood that the "direction", "requirement", "order", "designation", or "prescription", of the Contracting Officer is intended and similarly the words "approved", "acceptable", "satisfactory", or words of like import shall mean "approved by," or "acceptable to", or "satisfactory to" the Contracting Officer, unless otherwise expressly stated.

(c) Where "as shown," as indicated", "as detailed", or words of similar import are used, it shall be understood that the reference is made to the drawings accompanying this contract unless stated otherwise. The word "provided" as used herein shall be understood to mean "provide complete in place," that is "furnished and installed".

(d) Shop drawings means drawings, submitted to the Government by the Contractor, subcontractor, or any lower tier subcontractor pursuant to a construction contract, showing in detail (1) the proposed fabrication and assembly of structural elements, and (2) the installation (i.e., fit, and attachment details) of materials or equipment. It includes drawings, diagrams, layouts, schematics, descriptive literature, illustrations, schedules, performance and test data, and similar materials furnished by the contractor to explain in detail specific portions of the work required by the contract. The Government may duplicate, use, and disclose in any manner and for any purpose shop drawings delivered under this contract.

(e) If this contract requires shop drawings, the Contractor shall coordinate all such drawings, and review them for accuracy, completeness, and compliance with contract requirements and shall indicate its approval thereon as evidence of such coordination and review. Shop drawings submitted to the Contracting Officer without evidence of the Contractor's approval may be returned for resubmission. The Contracting Officer will indicate an approval or disapproval of the shop drawings and if not approved as submitted shall indicate the Government's reasons therefor. Any work done before such approval shall be at the Contractor's risk. Approval by the Contracting Officer shall not relieve the Contractor from responsibility for any errors or omissions in such drawings, nor from responsibility for complying with the requirements of this contract, except with respect to variations described and approved in accordance with (f) below.

(f) If shop drawings show variations from the contract requirements, the Contractor shall describe such variations in writing, separate from the drawings, at the time of submission. If the Contracting Officer approves any such variation, the Contracting Officer shall issue an appropriate contract modification, except that, if the variation is minor or does not involve a change in price or in time of performance, a modification need not be issued.

(g) The Contractor shall submit to the Contracting Officer for approval four copies (unless otherwise indicated) of all shop drawings as called for under the various headings of these specifications. Three sets (unless otherwise indicated) of all shop drawings, will be retained by the Contracting Officer and one set will be returned to the Contractor.

(End of clause)

#### **52.236-26 PRECONSTRUCTION CONFERENCE (FEB 1995)**

If the Contracting Officer decides to conduct a preconstruction conference, the successful offeror will be notified and will be required to attend. The Contracting Officer's notification will include specific details regarding the date, time, and location of the conference, any need for attendance by subcontractors, and information regarding the items to be discussed.

(End of clause)

#### **52.242-13 BANKRUPTCY (JUL 1995)**

In the event the Contractor enters into proceedings relating to bankruptcy, whether voluntary or involuntary, the Contractor agrees to furnish, by certified mail or electronic commerce method authorized by the contract, written notification of the bankruptcy to the Contracting Officer responsible for administering the contract. This notification shall be furnished within five days of the initiation of the proceedings relating to bankruptcy filing. This notification shall include the date on which the bankruptcy petition was filed, the identity of the court in which the bankruptcy

petition was filed, and a listing of Government contract numbers and contracting offices for all Government contracts against which final payment has not been made. This obligation remains in effect until final payment under this contract.

(End of clause)

**52.242-14 SUSPENSION OF WORK (APR 1984)**

(a) The Contracting Officer may order the Contractor, in writing, to suspend, delay, or interrupt all or any part of the work of this contract for the period of time that the Contracting Officer determines appropriate for the convenience of the Government.

(b) If the performance of all or any part of the work is, for an unreasonable period of time, suspended, delayed, or interrupted (1) by an act of the Contracting Officer in the administration of this contract, or (2) by the Contracting Officer's failure to act within the time specified in this contract (or within a reasonable time if not specified), an adjustment shall be made for any increase in the cost of performance of this contract (excluding profit) necessarily caused by the unreasonable suspension, delay, or interruption, and the contract modified in writing accordingly. However, no adjustment shall be made under this clause for any suspension, delay, or interruption to the extent that performance would have been so suspended, delayed, or interrupted by any other cause, including the fault or negligence of the Contractor, or for which an equitable adjustment is provided for or excluded under any other term or condition of this contract. (c) A claim under this clause shall not be allowed (1) for any costs incurred more than 20 days before the Contractor shall have notified the Contracting Officer in writing of the act or failure to act involved (but this requirement shall not apply as to a claim resulting from a suspension order), and (2) unless the claim, in an amount stated, is asserted in writing as soon as practicable after the termination of the suspension, delay, or interruption, but not later than the date of final payment under the contract.

(End of clause)

**52.243-4 CHANGES (AUG 1987)**

(a) The Contracting Officer may, at any time, without notice to the sureties, if any, by written order designated or indicated to be a change order, make changes in the work within the general scope of the contract, including changes--

- (1) In the specifications (including drawings and designs);
- (2) In the method or manner of performance of the work;
- (3) In the Government-furnished facilities, equipment, materials, services, or site; or
- (4) Directing acceleration in the performance of the work.

(b) Any other written or oral order (which, as used in this paragraph (b), includes direction, instruction, interpretation, or determination) from the Contracting Officer that causes a change shall be treated as a change order under this clause; provided, that the Contractor gives the Contracting Officer written notice stating

- (1) the date, circumstances, and source of the order and
- (2) that the Contractor regards the order as a change order.

(c) Except as provided in this clause, no order, statement, or conduct of the Contracting Officer shall be treated as a change under this clause or entitle the Contractor to an equitable adjustment.

(d) If any change under this clause causes an increase or decrease in the Contractor's cost of, or the time required for, the performance of any part of the work under this contract, whether or not changed by any such order, the Contracting Officer shall make an equitable adjustment and modify the contract in writing. However, except for an adjustment based on defective specifications, no adjustment for any change under paragraph (b) of this clause shall be made for any costs incurred more than 20 days before the Contractor gives written notice as required. In the case of defective specifications for which the Government is responsible, the equitable adjustment shall include any increased cost reasonably incurred by the Contractor in attempting to comply with the defective specifications.

(e) The Contractor must assert its right to an adjustment under this clause within 30 days after

(1) receipt of a written change order under paragraph (a) of this clause or (2) the furnishing of a written notice under paragraph (b) of this clause, by submitting to the Contracting Officer a written statement describing the general nature and amount of the proposal, unless this period is extended by the Government. The statement of proposal for adjustment may be included in the notice under paragraph (b) above.

(f) No proposal by the Contractor for an equitable adjustment shall be allowed if asserted after final payment under this contract.

(End of clause)

#### **52.244-6 SUBCONTRACTS FOR COMMERCIAL ITEMS (APR 2003)**

(a) Definitions.

"Commercial item", has the meaning contained in the clause at 52.202-1, Definitions.

"Subcontract", includes a transfer of commercial items between divisions, subsidiaries, or affiliates of the Contractor or subcontractor at any tier.

(b) To the maximum extent practicable, the Contractor shall incorporate, and require its subcontractors at all tiers to incorporate, commercial items or nondevelopmental items as components of items to be supplied under this contract.

(c) (1) The Contractor shall insert the following clauses in subcontracts for commercial items:

(i) 52.219-8, Utilization of Small Business Concerns (OCT 2000) (15 U.S.C. 637(d)(2) and (3)), in all subcontracts that offer further subcontracting opportunities. If the subcontract (except subcontracts to small business concerns) exceeds \$500,000 (\$1,000,000 for construction of any public facility), the subcontractor must include 52.219-8 in lower tier subcontracts that offer subcontracting opportunities.

(ii) 52.222-26, Equal Opportunity (Apr 2002) (E.O. 11246).

(iii) 52.222-35, Equal Opportunity for Special Disabled Veterans, Veterans of the Vietnam Era and Other Eligible Veterans (DEC 2001) (38 U.S.C. 4212(a)).

(iv) 52.222-36, Affirmative Action for Workers with Disabilities (JUN 1998) (29 U.S.C. 793).

(v) 52.247-64, Preference for Privately Owned U.S.-Flag Commercial Vessels (APR 2003) (46 U.S.C. Appx 1241 and 10 U.S.C. 2631) (flow down required in accordance with paragraph (d) of FAR clause 52.247-64).

(2) While not required, the Contractor may flow down to subcontracts for commercial items a minimal number of additional clauses necessary to satisfy its contractual obligations.

(d) The Contractor shall include the terms of this clause, including this paragraph (d), in subcontracts awarded under this contract.

(End of clause)

**52.246-12 INSPECTION OF CONSTRUCTION (AUG 1996)**

(a) Definition. "Work" includes, but is not limited to, materials, workmanship, and manufacture and fabrication of components.

(b) The Contractor shall maintain an adequate inspection system and perform such inspections as will ensure that the work performed under the contract conforms to contract requirements. The Contractor shall maintain complete inspection records and make them available to the Government. All work shall be conducted under the general direction of the Contracting Officer and is subject to Government inspection and test at all places and at all reasonable times before acceptance to ensure strict compliance with the terms of the contract.

(c) Government inspections and tests are for the sole benefit of the Government and do not--

(1) Relieve the Contractor of responsibility for providing adequate quality control measures;

(2) Relieve the Contractor of responsibility for damage to or loss of the material before acceptance;

(3) Constitute or imply acceptance; or

(4) Affect the continuing rights of the Government after acceptance of the completed work under paragraph (i) of this section.

(d) The presence or absence of a Government inspector does not relieve the Contractor from any contract requirement, nor is the inspector authorized to change any term or condition of the specification without the Contracting Officer's written authorization.

(e) The Contractor shall promptly furnish, at no increase in contract price, all facilities, labor, and material reasonably needed for performing such safe and convenient inspections and tests as may be required by the Contracting Officer. The Government may charge to the Contractor any additional cost of inspection or test when work is not ready at the time specified by the Contractor for inspection or test, or when prior rejection makes reinspection or retest necessary. The Government shall perform all inspections and tests in a manner that will not unnecessarily delay the work. Special, full size, and performance tests shall be performed as described in the contract.

(f) The Contractor shall, without charge, replace or correct work found by the Government not to conform to contract requirements, unless in the public interest the Government consents to accept the work with an appropriate adjustment in contract price. The Contractor shall promptly segregate and remove rejected material from the premises.

(g) If the Contractor does not promptly replace or correct rejected work, the Government may (1) by contract or otherwise, replace or correct the work and charge the cost to the Contractor or (2) terminate for default the Contractor's right to proceed.

(h) If, before acceptance of the entire work, the Government decides to examine already completed work by removing

it or tearing it out, the Contractor, on request, shall promptly furnish all necessary facilities, labor, and material. If the work is found to be defective or nonconforming in any material respect due to the fault of the Contractor or its subcontractors, the Contractor shall defray the expenses of the examination and of satisfactory reconstruction. However, if the work is found to meet contract requirements, the Contracting Officer shall make an equitable adjustment for the additional services involved in the examination and reconstruction, including, if completion of the work was thereby delayed, an extension of time.

(i) Unless otherwise specified in the contract, the Government shall accept, as promptly as practicable after completion and inspection, all work required by the contract or that portion of the work the Contracting Officer determines can be accepted separately. Acceptance shall be final and conclusive except for latent defects, fraud, gross mistakes amounting to fraud, or the Government's rights under any warranty or guarantee.

(End of clause)

**52.246-21 WARRANTY OF CONSTRUCTION (MAR 1994)**

(a) In addition to any other warranties in this contract, the Contractor warrants, except as provided in paragraph (i) of this clause, that work performed under this contract conforms to the contract requirements and is free of any defect in equipment, material, or design furnished, or workmanship performed by the Contractor or any subcontractor or supplier at any tier.

(b) This warranty shall continue for a period of 1 year from the date of final acceptance of the work. If the Government takes possession of any part of the work before final acceptance, this warranty shall continue for a period of 1 year from the date the Government takes possession.

(c) The Contractor shall remedy at the Contractor's expense any failure to conform, or any defect. In addition, the Contractor shall remedy at the Contractor's expense any damage to Government-owned or controlled real or personal property, when that damage is the result of--

(1) The Contractor's failure to conform to contract requirements; or

(2) Any defect of equipment, material, workmanship, or design furnished.

(d) The Contractor shall restore any work damaged in fulfilling the terms and conditions of this clause. The Contractor's warranty with respect to work repaired or replaced will run for 1 year from the date of repair or replacement.

(e) The Contracting Officer shall notify the Contractor, in writing, within a reasonable time after the discovery of any failure, defect, or damage.

(f) If the Contractor fails to remedy any failure, defect, or damage within a reasonable time after receipt of notice, the Government shall have the right to replace, repair, or otherwise remedy the failure, defect, or damage at the Contractor's expense.

(g) With respect to all warranties, express or implied, from subcontractors, manufacturers, or suppliers for work performed and materials furnished under this contract, the Contractor shall--

(1) Obtain all warranties that would be given in normal commercial practice;

(2) Require all warranties to be executed, in writing, for the benefit of the Government, if directed by the Contracting Officer; and

(3) Enforce all warranties for the benefit of the Government, if directed by the Contracting Officer.

(h) In the event the Contractor's warranty under paragraph (b) of this clause has expired, the Government may bring suit at its expense to enforce a subcontractor's, manufacturer's, or supplier's warranty.

(i) Unless a defect is caused by the negligence of the Contractor or subcontractor or supplier at any tier, the Contractor shall not be liable for the repair of any defects of material or design furnished by the Government nor for the repair of any damage that results from any defect in Government-furnished material or design.

(j) This warranty shall not limit the Government's rights under the Inspection and Acceptance clause of this contract with respect to latent defects, gross mistakes, or fraud.

(End of clause)

**52.247-34 F.O.B. DESTINATION (NOV 1991)**

(a) The term "f.o.b. destination," as used in this clause, means--

(1) Free of expense to the Government, on board the carrier's conveyance, at a specified delivery point where the consignee's facility (plant, warehouse, store, lot, or other location to which shipment can be made) is located; and

(2) Supplies shall be delivered to the destination consignee's wharf (if destination is a port city and supplies are for export), warehouse unloading platform, or receiving dock, at the expense of the Contractor. The Government shall not be liable for any delivery, storage, demurrage, accessorial, or other charges involved before the actual delivery (or "constructive placement" as defined in carrier tariffs) of the supplies to the destination, unless such charges are caused by an act or order of the Government acting in its contractual capacity. If rail carrier is used, supplies shall be delivered to the specified unloading platform of the consignee. If motor carrier (including "piggyback") is used, supplies shall be delivered to truck tailgate at the unloading platform of the consignee, except when the supplies delivered meet the requirements of Item 568 of the National Motor Freight Classification for "heavy or bulky freight." When supplies meeting the requirements of the referenced Item 568 are delivered, unloading (including movement to the tailgate) shall be performed by the consignee, with assistance from the truck driver, if requested. If the contractor uses rail carrier or freight forwarded for less than carload shipments, the contractor shall ensure that the carrier will furnish tailgate delivery, when required, if transfer to truck is required to complete delivery to consignee.

(b) The Contractor shall--

(1)(i) Pack and mark the shipment to comply with contract specifications; or

(ii) In the absence of specifications, prepare the shipment in conformance with carrier requirements;

(2) Prepare and distribute commercial bills of lading;

(3) Deliver the shipment in good order and condition to the point of delivery specified in the contract;

(4) Be responsible for any loss of and/or damage to the goods occurring before receipt of the shipment by the consignee at the delivery point specified in the contract;

(5) Furnish a delivery schedule and designate the mode of delivering carrier; and

(6) Pay and bear all charges to the specified point of delivery.

(End of clause)

**52.248-3 VALUE ENGINEERING--CONSTRUCTION (FEB 2000)**

(a) General. The Contractor is encouraged to develop, prepare, and submit value engineering change proposals (VECP's) voluntarily. The Contractor shall share in any instant contract savings realized from accepted VECP's, in accordance with paragraph (f) below.

(b) Definitions. "Collateral costs," as used in this clause, means agency costs of operation, maintenance, logistic support, or Government-furnished property.

"Collateral savings," as used in this clause, means those measurable net reductions resulting from a VECP in the agency's overall projected collateral costs, exclusive of acquisition savings, whether or not the acquisition cost changes.

"Contractor's development and implementation costs," as used in this clause, means those costs the Contractor incurs on a VECP specifically in developing, testing, preparing, and submitting the VECP, as well as those costs the Contractor incurs to make the contractual changes required by Government acceptance of a VECP.

"Government costs," as used in this clause, means those agency costs that result directly from developing and implementing the VECP, such as any net increases in the cost of testing, operations, maintenance, and logistic support. The term does not include the normal administrative costs of processing the VECP.

"Instant contract savings," as used in this clause, means the estimated reduction in Contractor cost of performance resulting from acceptance of the VECP, minus allowable Contractor's development and implementation costs, including subcontractors' development and implementation costs (see paragraph (h) below).

"Value engineering change proposal (VECP)" means a proposal that--

- (1) Requires a change to this, the instant contract, to implement; and
- (2) Results in reducing the contract price or estimated cost without impairing essential functions or characteristics; provided, that it does not involve a change--

(i) In deliverable end item quantities only; or

(ii) To the contract type only.

(c) VECP preparation. As a minimum, the Contractor shall include in each VECP the information described in subparagraphs (1) through (7) below. If the proposed change is affected by contractually required configuration management or similar procedures, the instructions in those procedures relating to format, identification, and priority assignment shall govern VECP preparation. The VECP shall include the following:

- (1) A description of the difference between the existing contract requirement and that proposed, the comparative advantages and disadvantages of each, a justification when an item's function or characteristics are being altered, and the effect of the change on the end item's performance.
- (2) A list and analysis of the contract requirements that must be changed if the VECP is accepted, including any suggested specification revisions.
- (3) A separate, detailed cost estimate for



(i) the affected portions of the existing contract requirement and

(ii) the VECP. The cost reduction associated with the VECP shall take into account the Contractor's allowable development and implementation costs, including any amount attributable to subcontracts under paragraph (h) below.

(4) A description and estimate of costs the Government may incur in implementing the VECP, such as test and evaluation and operating and support costs.

(5) A prediction of any effects the proposed change would have on collateral costs to the agency.

(6) A statement of the time by which a contract modification accepting the VECP must be issued in order to achieve the maximum cost reduction, noting any effect on the contract completion time or delivery schedule.

(7) Identification of any previous submissions of the VECP, including the dates submitted, the agencies and contract numbers involved, and previous Government actions, if known.

(d) Submission. The Contractor shall submit VECP's to the Resident Engineer at the worksite, with a copy to the Contracting Officer.

(e) Government action.

(1) The Contracting Officer will notify the Contractor of the status of the VECP within 45 calendar days after the contracting office receives it. If additional time is required, the Contracting Officer will notify the Contractor within the 45-day period and provide the reason for the delay and the expected date of the decision. The Government will process VECP's expeditiously; however, it shall not be liable for any delay in acting upon a VECP.

If the VECP is not accepted, the Contracting Officer will notify the Contractor in writing, explaining the reasons for rejection. The Contractor may withdraw any VECP, in whole or in part, at any time before it is accepted by the Government. The Contracting Officer may require that the Contractor provide written notification before undertaking significant expenditures for VECP effort.

Any VECP may be accepted, in whole or in part, by the Contracting Officer's award of a modification to this contract citing this clause. The Contracting Officer may accept the VECP, even though an agreement on price reduction has not been reached, by issuing the Contractor a notice to proceed with the change. Until a notice to proceed is issued or a contract modification applies a VECP to this contract, the Contractor shall perform in accordance with the existing contract. The decision to accept or reject all or part of any VECP is a unilateral decision made solely at the discretion of the Contracting Officer.

(f) Sharing.

(1) Rates. The Government's share of savings is determined by subtracting Government costs from instant contract savings and multiplying the result by

(i) 45 percent for fixed-price contracts or

(ii) 75 percent for cost-reimbursement contracts.

(2) Payment. Payment of any share due the Contractor for use of a VECP on this contract shall be authorized by a modification to this contract to--

(i) Accept the VECP;

(ii) Reduce the contract price or estimated cost by the amount of instant contract savings; and

(iii) Provide the Contractor's share of savings by adding the amount calculated to the contract price or fee.

(g) Collateral savings. If a VECP is accepted, the Contracting Officer will increase the instant contract amount by 20 percent of any projected collateral savings determined to be realized in a typical year of use after subtracting any Government costs not previously offset. However, the Contractor's share of collateral savings will not exceed the contract's firm-fixed-price or estimated cost, at the time the VECP is accepted, or \$100,000, whichever is greater. The Contracting Officer is the sole determiner of the amount of collateral savings.

(h) Subcontracts. The Contractor shall include an appropriate value engineering clause in any subcontract of \$50,000 or more and may include one in subcontracts of lesser value. In computing any adjustment in this contract's price under paragraph (f) above, the Contractor's allowable development and implementation costs shall include any subcontractor's allowable development and implementation costs clearly resulting from a VECP accepted by the Government under this contract, but shall exclude any value engineering incentive payments to a subcontractor. The Contractor may choose any arrangement for subcontractor value engineering incentive payments; provided, that these payments shall not reduce the Government's share of the savings resulting from the VECP.

(i) Data. The Contractor may restrict the Government's right to use any part of a VECP or the supporting data by marking the following legend on the affected parts:

"These data, furnished under the Value Engineering-- Construction clause of contract . . . . ., shall not be disclosed outside the Government or duplicated, used, or disclosed, in whole or in part, for any purpose other than to evaluate a value engineering change proposal submitted under the clause. This restriction does not limit the Government's right to use information contained in these data if it has been obtained or is otherwise available from the Contractor or from another source without limitations." If a VECP is accepted, the Contractor hereby grants the Government unlimited rights in the VECP and supporting data, except that, with respect to data qualifying and submitted as limited rights technical data, the Government shall have the rights specified in the contract modification implementing the VECP and shall appropriately mark the data. (The terms "unlimited rights" and "limited rights" are defined in Part 27 of the Federal Acquisition Regulation.)

(End of clause)

**52.249-2 TERMINATION FOR CONVENIENCE OF THE GOVERNMENT (FIXED-PRICE) (SEP 1996) -  
ALTERNATE I (SEP 1996)**

(a) The Government may terminate performance of work under this contract in whole or, from time to time, in part if the Contracting Officer determines that a termination is in the Government's interest. The Contracting Officer shall terminate by delivering to the Contractor a Notice of Termination specifying the extent of termination and the effective date.

(b) After receipt of a Notice of Termination, and except as directed by the Contracting Officer, the Contractor shall immediately proceed with the following obligations, regardless of any delay in determining or adjusting any amounts due under this clause:

(1) Stop work as specified in the notice.

(2) Place no further subcontracts or orders (referred to as subcontracts in this clause) for materials, services, or facilities, except as necessary to complete the continued portion of the contract.

- (3) Terminate all subcontracts to the extent they relate to the work terminated.
- (4) Assign to the Government, as directed by the Contracting Officer, all right, title, and interest of the Contractor under the subcontracts terminated, in which case the Government shall have the right to settle or to pay any termination settlement proposal arising out of those terminations.
- (5) With approval or ratification to the extent required by the Contracting Officer, settle all outstanding liabilities and termination settlement proposals arising from the termination of subcontracts; the approval or ratification will be final for purposes of this clause.
- (6) As directed by the Contracting Officer, transfer title and deliver to the Government (i) the fabricated or unfabricated parts, work in process, completed work, supplies, and other material produced or acquired for the work terminated, and (ii) the completed or partially completed plans, drawings, information, and other property that, if the contract had been completed, would be required to be furnished to the Government.
- (7) Complete performance of the work not terminated.
- (8) Take any action that may be necessary, or that the Contracting Officer may direct, for the protection and preservation of the property related to this contract that is in the possession of the Contractor and in which the Government has or may acquire an interest.
- (9) Use its best efforts to sell, as directed or authorized by the Contracting Officer, any property of the types referred to in subparagraph (b)(6) of this clause; provided, however, that the Contractor (i) is not required to extend credit to any purchaser and (ii) may acquire the property under the conditions prescribed by, and at prices approved by, the Contracting Officer. The proceeds of any transfer or disposition will be applied to reduce any payments to be made by the Government under this contract, credited to the price or cost of the work, or paid in any other manner directed by the Contracting Officer.
- (c) The Contractor shall submit complete termination inventory schedules no later than 120 days from the effective date of termination, unless extended in writing by the Contracting Officer upon written request of the Contractor within this 120-day period.
- (d) After expiration of the plant clearance period as defined in Subpart 45.6 of the Federal Acquisition Regulation, the Contractor may submit to the Contracting Officer a list, certified as to quantity and quality, of termination inventory not previously disposed of, excluding items authorized for disposition by the Contracting Officer. The Contractor may request the Government to remove those items or enter into an agreement for their storage. Within 15 days, the Government will accept title to those items and remove them or enter into a storage agreement. The Contracting Officer may verify the list upon removal of the items, or if stored, within 45 days from submission of the list, and shall correct the list, as necessary, before final settlement.
- (e) After termination, the Contractor shall submit a final termination settlement proposal to the Contracting Officer in the form and with the certification prescribed by the Contracting Officer. The Contractor shall submit the proposal promptly, but no later than 1 year from the effective date of termination, unless extended in writing by the Contracting Officer upon written request of the Contractor within this 1-year period. However, if the Contracting Officer determines that the facts justify it, a termination settlement proposal may be received and acted on after 1 year or any extension. If the Contractor fails to submit the proposal within the time allowed, the Contracting Officer may determine, on the basis of information available, the amount, if any, due the Contractor because of the termination and shall pay the amount determined.
- (f) Subject to paragraph (e) of this clause, the Contractor and the Contracting Officer may agree upon the whole or any part of the amount to be paid or remaining to be paid because of the termination. The amount may include a reasonable allowance for profit on work done. However, the agreed amount, whether under this paragraph (g) or paragraph (g) of this clause, exclusive of costs shown in subparagraph (g)(3) of this clause, may not exceed the total

contract price as reduced by (1) the amount of payments previously made and (2) the contract price of work not terminated. The contract shall be modified, and the Contractor paid the agreed amount. Paragraph (g) of this clause shall not limit, restrict, or affect the amount that may be agreed upon to be paid under this paragraph.

(g) If the Contractor and Contracting Officer fail to agree on the whole amount to be paid the Contractor because of the termination of work, the Contracting Officer shall pay the Contractor the amounts determined as follows, but without duplication of any amounts agreed upon under paragraph (f) of this clause:

(1) For contract work performed before the effective date of termination, the total (without duplication of any items) of--

(i) The cost of this work;

(ii) The cost of settling and paying termination settlement proposals under terminated subcontracts that are properly chargeable to the terminated portion of the contract if not included in subdivision (g)(1)(i) of this clause; and

(iii) A sum, as profit on subdivision (g)(1)(i) of this clause, determined by the Contracting Officer under 49.202 of the Federal Acquisition Regulation, in effect on the date of this contract, to be fair and reasonable; however, if it appears that the Contractor would have sustained a loss on the entire contract had it been completed, the Contracting Officer shall allow no profit under this subdivision (iii) and shall reduce the settlement to reflect the indicated rate of loss.

(2) The reasonable costs of settlement of the work terminated, including--

(i) Accounting, legal, clerical, and other expenses reasonably necessary for the preparation of termination settlement proposals and supporting data;

(ii) The termination and settlement of subcontracts (excluding the amounts of such settlements); and

(iii) Storage, transportation, and other costs incurred, reasonably necessary for the preservation, protection, or disposition of the termination inventory.

(h) Except for normal spoilage, and except to the extent that the Government expressly assumed the risk of loss, the Contracting Officer shall exclude from the amounts payable to the Contractor under paragraph (g) of this clause, the fair value, as determined by the Contracting Officer, of property that is destroyed, lost, stolen, or damaged so as to become undeliverable to the Government or to a buyer.

(i) The cost principles and procedures of Part 31 of the Federal Acquisition Regulation, in effect on the date of this contract, shall govern all costs claimed, agreed to, or determined under this clause.

(j) The Contractor shall have the right of appeal, under the Disputes clause, from any determination made by the Contracting Officer under paragraph (e), (g), or (l) of this clause, except that if the Contractor failed to submit the termination settlement proposal or request for equitable adjustment within the time provided in paragraph (e) or (l), respectively, and failed to request a time extension, there is no right of appeal.

(k) In arriving at the amount due the Contractor under this clause, there shall be deducted--

(1) All unliquidated advance or other payments to the Contractor under the terminated portion of this contract;

(2) Any claim which the Government has against the Contractor under this contract; and

(3) The agreed price for, or the proceeds of sale of, materials, supplies, or other things acquired by the Contractor or sold under the provisions of this clause and not recovered by or credited to the Government.

(l) If the termination is partial, the Contractor may file a proposal with the Contracting Officer for an equitable adjustment of the price(s) of the continued portion of the contract. The Contracting Officer shall make any equitable adjustment agreed upon. Any proposal by the Contractor for an equitable adjustment under this clause shall be requested within 90 days from the effective date of termination unless extended in writing by the Contracting Officer.

(m)(1) The Government may, under the terms and conditions it prescribes, make partial payments and payments against costs incurred by the Contractor for the terminated portion of the contract, if the Contracting Officer believes the total of these payments will not exceed the amount to which the Contractor will be entitled.

(2) If the total payments exceed the amount finally determined to be due, the Contractor shall repay the excess to the Government upon demand, together with interest computed at the rate established by the Secretary of the Treasury under 50 U.S.C. App. 1215(b)(2). Interest shall be computed for the period from the date the excess payment is received by the Contractor to the date the excess is repaid. Interest shall not be charged on any excess payment due to a reduction in the Contractor's termination settlement proposal because of retention or other disposition of termination inventory until 10 days after the date of the retention or disposition, or a later date determined by the Contracting Officer because of the circumstances.

(n) Unless otherwise provided in this contract or by statute, the Contractor shall maintain all records and documents relating to the terminated portion of this contract for 3 years after final settlement. This includes all books and other evidence bearing on the Contractor's costs and expenses under this contract. The Contractor shall make these records and documents available to the Government, at the Contractor's office, at all reasonable times, without any direct charge. If approved by the Contracting Officer, photographs, microphotographs, or other authentic reproductions may be maintained instead of original records and documents.

(End of clause)

**52.249-10 DEFAULT (FIXED-PRICE CONSTRUCTION) (APR 1984)**

(a) If the Contractor refuses or fails to prosecute the work or any separable part, with the diligence that will insure its completion within the time specified in this contract including any extension, or fails to complete the work within this time, the Government may, by written notice to the Contractor, terminate the right to proceed with the work (or the separable part of the work) that has been delayed. In this event, the Government may take over the work and complete it by contract or otherwise, and may take possession of and use any materials, appliances, and plant on the work site necessary for completing the work. The Contractor and its sureties shall be liable for any damage to the Government resulting from the Contractor's refusal or failure to complete the work within the specified time, whether or not the Contractor's right to proceed with the work is terminated. This liability includes any increased costs incurred by the Government in completing the work.

(b) The Contractor's right to proceed shall not be terminated nor the Contractor charged with damages under this clause, if--

(1) The delay in completing the work arises from unforeseeable causes beyond the control and without the fault or negligence of the Contractor. Examples of such causes include

(i) acts of God or of the public enemy,

(ii) acts of the Government in either its sovereign or contractual capacity,

(iii) acts of another Contractor in the performance of a contract with the Government,

(iv) fires,

(v) floods,

(vi) epidemics,

(vii) quarantine restrictions,

(viii) strikes,

(ix) freight embargoes,

(x) unusually severe weather, or delays of subcontractors or suppliers at any tier arising from unforeseeable causes beyond the control and without the fault or negligence of both the Contractor and the subcontractors or suppliers; and

(2) The Contractor, within 10 days from the beginning of any delay (unless extended by the Contracting Officer), notifies the Contracting Officer in writing of the causes of delay. The Contracting Officer shall ascertain the facts and the extent of delay. If, in the judgment of the Contracting Officer, the findings of fact warrant such action, the time for completing the work shall be extended. The findings of the Contracting Officer shall be final and conclusive on the parties, but subject to appeal under the Disputes clause.

(c) If, after termination of the Contractor's right to proceed, it is determined that the Contractor was not in default, or that the delay was excusable, the rights and obligations of the parties will be the same as if the termination had been issued for the convenience of the Government.

The rights and remedies of the Government in this clause are in addition to any other rights and remedies provided by law or under this contract.

(End of clause)

#### **52.252-2 CLAUSES INCORPORATED BY REFERENCE (FEB 1998)**

This contract incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. Also, the full text of a clause may be accessed electronically at this/these address(es):

[www.arnet.gov](http://www.arnet.gov)

(End of clause)

#### **52.252-6 AUTHORIZED DEVIATIONS IN CLAUSES (APR 1984)**

(a) The use in this solicitation or contract of any Federal Acquisition Regulation (48 CFR Chapter 1) clause with an authorized deviation is indicated by the addition of "(DEVIATION)" after the date of the clause.

(b) The use in this solicitation or contract of any "[Deviation](#)" (48 CFR [Chapter 1](#)) clause with an authorized deviation is indicated by the addition of "(DEVIATION)" after the name of the regulation.

(End of clause)

**52.253-1 COMPUTER GENERATED FORMS (JAN 1991)**

- (a) Any data required to be submitted on a Standard or Optional Form prescribed by the Federal Acquisition Regulation (FAR) may be submitted on a computer generated version of the form, provided there is no change to the name, content, or sequence of the data elements on the form, and provided the form carries the Standard or Optional Form number and edition date.
- (b) Unless prohibited by agency regulations, any data required to be submitted on an agency unique form prescribed by an agency supplement to the FAR may be submitted on a computer generated version of the form provided there is no change to the name, content, or sequence of the data elements on the form and provided the form carries the agency form number and edition date.
- (f) If the Contractor submits a computer generated version of a form that is different than the required form, then the rights and obligations of the parties will be determined based on the content of the required form.

(End of clause)

**252.201-7000 CONTRACTING OFFICER'S REPRESENTATIVE (DEC 1991)**

- (a) "Definition. Contracting officer's representative" means an individual designated in accordance with subsection 201.602-2 of the Defense Federal Acquisition Regulation Supplement and authorized in writing by the contracting officer to perform specific technical or administrative functions.
- (b) If the Contracting Officer designates a contracting officer's representative (COR), the Contractor will receive a copy of the written designation. It will specify the extent of the COR's authority to act on behalf of the contracting officer. The COR is not authorized to make any commitments or changes that will affect price, quality, quantity, delivery, or any other term or condition of the contract.

(End of clause)

**252.203-7001 PROHIBITION ON PERSONS CONVICTED OF FRAUD OR OTHER DEFENSE-CONTRACT-RELATED FELONIES (MAR 1999)**

- (a) Definitions. As used in this clause—
  - (1) "Arising out of a contract with the DoD" means any act in connection with—
    - (i) Attempting to obtain;
    - (ii) Obtaining, or
    - (iii) Performing a contract or first-tier subcontract of any agency, department, or component of the Department of Defense (DoD).
  - (2) "Conviction of fraud or any other felony" means any conviction for fraud or a felony in violation of state or Federal criminal statutes, whether entered on a verdict or plea, including a plea of *nolo contendere*, for which sentence has been imposed.
  - (3) "Date of conviction" means the date judgment was entered against the individual.

(b) Any individual who is convicted after September 29, 1988, of fraud or any other felony arising out of a contract with the DoD is prohibited from serving--

- (1) In a management or supervisory capacity on any DoD contract or first-tier subcontract;
- (2) On the board of directors of any DoD contractor or first-tier subcontractor;
- (3) As a consultant, agent, or representative for any DoD contractor or first-tier subcontractor; or
- (4) In any other capacity with the authority to influence, advise, or control the decisions of any DoD contractor or subcontractor with regard to any DoD contract or first-tier subcontract.

(c) Unless waived, the prohibition in paragraph (b) of this clause applies for not less than 5 years from the date of conviction.

(d) 10 U.S.C. 2408 provides that a defense contractor or first-tier subcontractor shall be subject to a criminal penalty of not more than \$500,000 if convicted of knowingly—

- (1) Employing a person under a prohibition specified in paragraph (b) of this clause; or
- (2) Allowing such a person to serve on the board of directors of the contractor or first-tier subcontractor.

(e) In addition to the criminal penalties contained in 10 U.S.C. 2408, the Government may consider other available remedies, such as—

- (1) Suspension or debarment;
- (2) Cancellation of the contract at no cost to the Government; or
- (3) Termination of the contract for default.

(f) The Contractor may submit written requests for waiver of the prohibition in paragraph (b) of this clause to the Contracting Officer. Requests shall clearly identify—

- (1) The person involved;
- (2) The nature of the conviction and resultant sentence or punishment imposed;
- (3) The reasons for the requested waiver; and
- (4) An explanation of why a waiver is in the interest of national security.

(g) The Contractor agrees to include the substance of this clause, appropriately modified to reflect the identity and relationship of the parties, in all first-tier subcontracts exceeding the simplified acquisition threshold in Part 2 of the Federal Acquisition Regulation, except those for commercial items or components.

(h) Pursuant to 10 U.S.C. 2408(c), defense contractors and subcontractors may obtain information as to whether a particular person has been convicted of fraud or any other felony arising out of a contract with the DoD by contacting The Office of Justice Programs, The Denial of Federal Benefits Office, U.S. Department of Justice, telephone (202) 616-3507.

(End of clause)



**252.204-7003 CONTROL OF GOVERNMENT PERSONNEL WORK PRODUCT (APR 1992)**

The Contractor's procedures for protecting against unauthorized disclosure of information shall not require Department of Defense employees or members of the Armed Forces to relinquish control of their work products, whether classified or not, to the contractor.

(End of clause)

**252.204-7004 REQUIRED CENTRAL CONTRACTOR REGISTRATION ALTERNATE A (NOV 2003)**

(a) Definitions. As used in this clause--

“Central Contractor Registration (CCR) database” means the primary Government repository for contractor information required for the conduct of business with the Government.

“Commercial and Government Entity (CAGE) code” means--

(1) A code assigned by the Defense Logistics Information Service (DLIS) to identify a commercial or Government entity; or

(2) A code assigned by a member of the North Atlantic Treaty Organization that DLIS records and maintains in the CAGE master file. This type of code is known as an “NCAGE code.”

“Data Universal Numbering System (DUNS) number” means the 9-digit number assigned by Dun and Bradstreet, Inc. (D&B) to identify unique business entities.

“Data Universal Numbering System +4 (DUNS+4) number” means the DUNS number assigned by D&B plus a 4-character suffix that may be assigned by a business concern. (D&B has no affiliation with this 4-character suffix.) This 4-character suffix may be assigned at the discretion of the business concern to establish additional CCR records for identifying alternative Electronic Funds Transfer (EFT) accounts (see Subpart 32.11 of the Federal Acquisition Regulation) for the same parent concern.

“Registered in the CCR database” means that--

(1) The Contractor has entered all mandatory information, including the DUNS number or the DUNS+4 number, into the CCR database;

(2) The Contractor's CAGE code is in the CCR database; and

(3) The Government has validated all mandatory data fields and has marked the records “Active.”

(b)(1) By submission of an offer, the offeror acknowledges the requirement that a prospective awardee shall be registered in the CCR database prior to award, during performance, and through final payment of any contract, basic agreement, basic ordering agreement, or blanket purchasing agreement resulting from this solicitation.

(2) The offeror shall enter, in the block with its name and address on the cover page of its offer, the annotation “DUNS” or “DUNS +4” followed by the DUNS or DUNS +4 number that identifies the offeror's name and address exactly as stated in the offer. The DUNS number will be used by the Contracting Officer to verify that the offeror is registered in the CCR database.

(c) If the offeror does not have a DUNS number, it should contact Dun and Bradstreet directly to obtain one.

(1) An offeror may obtain a DUNS number--

(i) If located within the United States, by calling Dun and Bradstreet at 1-866-705-5711 or via the Internet at <http://www.dnb.com>; or

(ii) If located outside the United States, by contacting the local Dun and Bradstreet office.

(2) The offeror should be prepared to provide the following information:

(i) Company legal business.

(ii) Tradestyle, doing business, or other name by which your entity is commonly recognized.

(iii) Company Physical Street Address, City, State, and Zip Code.

(iv) Company Mailing Address, City, State and Zip Code (if separate from physical).

(v) Company Telephone Number.

(vi) Date the company was started.

(vii) Number of employees at your location.

(viii) Chief executive officer/key manager.

(ix) Line of business (industry).

(x) Company Headquarters name and address (reporting relationship within your entity).

(d) If the Offeror does not become registered in the CCR database in the time prescribed by the Contracting Officer, the Contracting Officer will proceed to award to the next otherwise successful registered Offeror.

(e) Processing time, which normally takes 48 hours, should be taken into consideration when registering. Offerors who are not registered should consider applying for registration immediately upon receipt of this solicitation.

(f) The Contractor is responsible for the accuracy and completeness of the data within the CCR database, and for any liability resulting from the Government's reliance on inaccurate or incomplete data. To remain registered in the CCR database after the initial registration, the Contractor is required to review and update on an annual basis from the date of initial registration or subsequent updates its information in the CCR database to ensure it is current, accurate and complete. Updating information in the CCR does not alter the terms and conditions of this contract and is not a substitute for a properly executed contractual document.

(g)(1)(i) If a Contractor has legally changed its business name, "doing business as" name, or division name (whichever is shown on the contract), or has transferred the assets used in performing the contract, but has not completed the necessary requirements regarding novation and change-of-name agreements in Subpart 42.12, the Contractor shall provide the responsible Contracting Officer a minimum of one business day's written notification of its intention to (A) change the name in the CCR database; (B) comply with the requirements of Subpart 42.12 of the FAR; and (C) agree in writing to the timeline and procedures specified by the responsible Contracting Officer. The Contractor must provide with the notification sufficient documentation to support the legally changed name.

(ii) If the Contractor fails to comply with the requirements of paragraph (g)(1)(i) of this clause, or fails to perform the agreement at paragraph (g)(1)(i)(C) of this clause, and, in the absence of a properly executed novation or change-of-

name agreement, the CCR information that shows the Contractor to be other than the Contractor indicated in the contract will be considered to be incorrect information within the meaning of the "Suspension of Payment" paragraph of the electronic funds transfer (EFT) clause of this contract.

(2) The Contractor shall not change the name or address for EFT payments or manual payments, as appropriate, in the CCR record to reflect an assignee for the purpose of assignment of claims (see FAR Subpart 32.8, Assignment of Claims). Assignees shall be separately registered in the CCR database. Information provided to the Contractor's CCR record that indicates payments, including those made by EFT, to an ultimate recipient other than that Contractor will be considered to be incorrect information within the meaning of the "Suspension of payment" paragraph of the EFT clause of this contract.

(h) Offerors and Contractors may obtain information on registration and annual confirmation requirements via the internet at <http://www.ccr.gov> or by calling 1-888-227-2423, or 269-961-5757.

(End of clause)

***252.209-7000 ACQUISITION FROM SUBCONTRACTORS SUBJECT TO ONSITE INSPECTION UNDER THE INTERMEDIATE-RANGE NUCLEAR FORCES (INF) TREATY (NOV 1995)***

(a) The Contractor shall not deny consideration for a subcontract award under this contract to a potential subcontractor subject to on-site inspection under the INF Treaty, or a similar treaty, solely or in part because of the actual or potential presence of Soviet inspectors at the subcontractor's facility, unless the decision is approved by the Contracting Officer.

(b) The Contractor shall incorporate this clause, including this paragraph (b), in all solicitations and contracts exceeding the simplified acquisition threshold in part 13 of the Federal Acquisition Regulation, except those for commercial items.

(End of clause)

***252.209-7004 SUBCONTRACTING WITH FIRMS THAT ARE OWNED OR CONTROLLED BY THE GOVERNMENT OF A TERRORIST COUNTRY (MAR 1998)***

(a) Unless the Government determines that there is a compelling reason to do so, the Contractor shall not enter into any subcontract in excess of \$25,000 with a firm, or subsidiary of a firm, that is identified, on the List of Parties Excluded from Federal Procurement and Nonprocurement Programs, as being ineligible for the award of Defense contracts or subcontracts because it is owned or controlled by the government of a terrorist country.

(b) A corporate officer or a designee of the Contractor shall notify the Contracting Officer, in writing, before entering into a subcontract with a party that is identified, on the List of Parties Excluded from Federal Procurement and Nonprocurement Programs, as being ineligible for the award of Defense contracts or subcontracts because it is owned or controlled by the government of a terrorist country. The notice must include the name of the proposed subcontractor notwithstanding its inclusion on the List of Parties Excluded From Federal Procurement and Nonprocurement Programs.

(End of clause)

**252.219-7003 SMALL, SMALL DISADVANTAGED AND WOMEN-OWNED SMALL BUSINESS SUBCONTRACTING PLAN (DOD CONTRACTS) (APR. 1996)**

This clause supplements the Federal Acquisition Regulation 52.219-9, Small, Small Disadvantaged and Women-Owned Small Business Subcontracting Plan, clause of this contract.

(a) *Definitions. Historically black colleges and universities*, as used in this clause, means institutions determined by the Secretary of Education to meet the requirements of 34 CFR 608.2. The term also means any nonprofit research institution that was an integral part of such a college or university before November 14, 1986.

*Minority institutions*, as used in this clause, means institutions meeting the requirements of section 1046(3) of the Higher Education Act of 1965 (20 U.S.C. 1135d-5(3)). The term also includes Hispanic-serving institutions as defined in section 316(b)(1) of such Act (20 U.S.C. 1059c(b)(1)).

(b) Except for company or division-wide commercial items subcontracting plans, the term *small disadvantaged business*, when used in the FAR 52.219-9 clause, includes historically black colleges and universities and minority institutions, in addition to small disadvantaged business concerns.

(c) Work under the contract or its subcontracts shall be credited toward meeting the small disadvantaged business concern goal required by paragraph (d) of the FAR 52.219-9 clause when:

(1) It is performed on Indian lands or in joint venture with an Indian tribe or a tribally-owned corporation, and

(2) It meets the requirements of 10 U.S.C. 2323a.

(d) Subcontracts awarded to workshops approved by the Committee for Purchase from People Who are Blind or Severely Disabled (41 U.S.C. 46-48), may be counted toward the Contractor's small business subcontracting goal.

(e) A mentor firm, under the Pilot Mentor-Protege Program established under Section 831 of Pub. L. 101-510, as amended, may count toward its small disadvantaged business goal, subcontracts awarded--

(f) The master plan approval referred to in paragraph (f) of the FAR 52.219-9 clause is approval by the Contractor's cognizant contract administration activity.

(g) In those subcontracting plans which specifically identify small, small disadvantaged, and women-owned small businesses, the Contractor shall notify the Administrative Contracting Officer of any substitutions of firms that are not small, small disadvantaged, or women-owned small businesses for the firms listed in the subcontracting plan. Notifications shall be in writing and shall occur within a reasonable period of time after award of the subcontract. Contractor-specified formats shall be acceptable.

(End of clause)

**252.223-7004 DRUG-FREE WORK FORCE (SEP 1988)**

(a) Definitions.

(1) "Employee in a sensitive position," as used in this clause, means an employee who has been granted access to classified information; or employees in other positions that the Contractor determines involve national security; health or safety, or functions other than the foregoing requiring a high degree of trust and confidence.

(2) "Illegal drugs," as used in this clause, means controlled substances included in Schedules I and II, as defined by section 802(6) of title 21 of the United States Code, the possession of which is unlawful under chapter 13 of that Title. The term "illegal drugs" does not mean the use of a controlled substance pursuant to a valid prescription or other uses authorized by law.

(b) The Contractor agrees to institute and maintain a program for achieving the objective of a drug-free work force. While this clause defines criteria for such a program, contractors are encouraged to implement alternative approaches comparable to the criteria in paragraph (c) that are designed to achieve the objectives of this clause.

(c) Contractor programs shall include the following, or appropriate alternatives:

(1) Employee assistance programs emphasizing high level direction, education, counseling, rehabilitation, and coordination with available community resources;

(2) Supervisory training to assist in identifying and addressing illegal drug use by Contractor employees;

(3) Provision for self-referrals as well as supervisory referrals to treatment with maximum respect for individual confidentiality consistent with safety and security issues;

(4) Provision for identifying illegal drug users, including testing on a controlled and carefully monitored basis. Employee drug testing programs shall be established taking account of the following:

(i) The Contractor shall establish a program that provides for testing for the use of illegal drugs by employees in sensitive positions. The extent of and criteria for such testing shall be determined by the Contractor based on considerations that include the nature of the work being performed under the contract, the employee's duties, and efficient use of Contractor resources, and the risks to health, safety, or national security that could result from the failure of an employee adequately to discharge his or her position.

(ii) In addition, the Contractor may establish a program for employee drug testing--

(A) When there is a reasonable suspicion that an employee uses illegal drugs; or

(B) When an employees has been involved in an accident or unsafe practice;

(C) As part of or as a follow-up to counseling or rehabilitation for illegal drug use;

(D) As part of a voluntary employee drug testing program.

(iii) The Contractor may establish a program to test applicants for employment for illegal drug use.

(iv) For the purpose of administering this clause, testing for illegal drugs may be limited to those substances for which testing is prescribed by section 2..1 of subpart B of the "Mandatory Guidelines for Federal Workplace Drug Testing Programs" (53 FR 11980 (April 11, 1988), issued by the Department of Health and Human Services.

(d) Contractors shall adopt appropriate personnel procedures to deal with employees who are found to be using drugs illegally. Contractors shall not allow any employee to remain on duty or perform in a sensitive position who is found to use illegal drugs until such times as the Contractor, in accordance with procedures established by the Contractor, determines that the employee may perform in such a position.

(e) The provisions of this clause pertaining to drug testing program shall not apply to the extent that are inconsistent with state or local law, or with an existing collective bargaining agreement; provided that with respect to the latter, the Contractor agrees those issues that are in conflict will be a subject of negotiation at the next collective bargaining session.

(End of clause)

**252.225-7012 PREFERENCE FOR CERTAIN DOMESTIC COMMODITIES (FEB 2003)**

(a) Definitions. As used in this clause--

(1) Component means any item supplied to the Government as part of an end product or of another component.

(2) End product means supplies delivered under a line item of this contract.

(b) The Contractor shall deliver under this contract only such of the following items, either as end products or components, that have been grown, reprocessed, reused, or produced in the United States, its possessions, or Puerto Rico:

(1) Food.

(2) Clothing.

(3) Tents, tarpaulins, or covers.

(4) Cotton and other natural fiber products.

(5) Woven silk or woven silk blends.

(6) Spun silk yarn for cartridge cloth.

(7) Synthetic fabric, and coated synthetic fabric, including all textile fibers and yarns that are for use in such fabrics.

(8) Canvas products.

(9) Wool (whether in the form of fiber or yarn or contained in fabrics, materials, or manufactured articles).

(10) Any item of individual equipment (Federal Supply Class 8465) manufactured from or containing fibers, yarns, fabrics, or materials listed in this paragraph (b).

(c) This clause does not apply--

(1) To items listed in section 25.104(a) of the Federal Acquisition Regulation (FAR), or other items for which the Government has determined that a satisfactory quality and sufficient quantity cannot be acquired as and when needed at U.S. market prices;

(2) To end products incidentally incorporating cotton, other natural fibers, or wool, for which the estimated value of the cotton, other natural fibers, or wool--

(i) Is not more than 10 percent of the total price of the end product; and (ii) Does not exceed the simplified acquisition threshold in FAR part 2;

(3) To foods that have been manufactured or processed in the United States, its possessions, or Puerto Rico, regardless of where the foods (and any component if applicable) were grown or produced, except that this clause

does apply to fish, shellfish, or seafood manufactured or processed in the United States and fish, shellfish, or seafood contained in foods manufactured or processed in the United States;

(4) To chemical warfare protective clothing produced in the countries listed in subsection 225.872-1 of the Defense FAR Supplement; or

(5) To fibers and yarns that are for use in synthetic fabric or coated synthetic fabric (but does apply to the synthetic or coated synthetic fabric itself), if--

(i) The fabric is to be used as a component of an end product that is not a textile product. Examples of textile products, made in whole or in part of fabric, include--

(A) Draperies, floor coverings, furnishings, and bedding (Federal Supply Group 72, Household and Commercial Furnishings and Appliances);

(B) Items made in whole or in part of fabric in Federal Supply Group 83, Textile/leather/furs/apparel/findings/tents/flags, or Federal Supply Group 84, Clothing, Individual Equipment and Insignia;

(C) Upholstered seats (whether for household, office, or other use); and

(D) Parachutes (Federal Supply Class 1670); or

(ii) The fibers and yarns are para-aramid fibers and yarns manufactured in the Netherlands.

(End of clause)

**252.225-7014 PREFERENCE FOR DOMESTIC SPECIALTY METALS (APR 2003)**

(a) Definitions. As used in this clause--

(1) Qualifying country means any country listed in subsection 225.872-1 of the Defense Federal Acquisition Regulation Supplement.

(2) Specialty metals means--

(i) Steel--

(A) With a maximum alloy content exceeding one or more of the following limits: manganese, 1.65 percent; silicon, 0.60 percent; or copper, 0.60 percent; or

(B) Containing more than 0.25 percent of any of the following elements: aluminum, chromium, cobalt, columbium, molybdenum, nickel, titanium, tungsten, or vanadium;

(ii) Metal alloys consisting of nickel, iron-nickel, and cobalt base alloys containing a total of other alloying metals (except iron) in excess of 10 percent;

(iii) Titanium and titanium alloys; or

(iv) Zirconium and zirconium base alloys.

(b) Any specialty metals incorporated in articles delivered under this contract shall be melted in the United States, its possessions, or Puerto Rico.

(c) This clause does not apply to specialty metals --

(1) Melted in a qualifying country or incorporated in an article manufactured in a qualifying country; or

(2) Purchased by a subcontractor at any tier.

(End of clause)

**252.227-7033 RIGHTS IN SHOP DRAWINGS (APR 1966)**

(a) Shop drawings for construction means drawings, submitted to the Government by the Construction Contractor, subcontractor or any lower-tier subcontractor pursuant to a construction contract, showing in detail (i) the proposed fabrication and assembly of structural elements and (ii) the installation (i.e., form, fit, and attachment details) of materials or equipment. The Government may duplicate, use, and disclose in any manner and for any purpose shop drawings delivered under this contract.

(b) This clause, including this paragraph (b), shall be included in all subcontracts hereunder at any tier.

**252.232-7003 ELECTRONIC SUBMISSION OF PAYMENT REQUESTS (JAN 2004)**

(a) Definitions. As used in this clause--

(1) Contract financing payment and invoice payment have the meanings given in section 32.001 of the Federal Acquisition Regulation.

(2) Electronic form means any automated system that transmits information electronically from the initiating system to all affected systems. Facsimile, e-mail, and scanned documents are not acceptable electronic forms for submission of payment requests. However, scanned documents are acceptable when they are part of a submission of a payment request made using one of the electronic forms provided for in paragraph (b) of this clause.

(3) Payment request means any request for contract financing payment or invoice payment submitted by the Contractor under this contract.

(b) Except as provided in paragraph (c) of this clause, the Contractor shall submit payment requests using one of the following electronic forms:

(1) Wide Area WorkFlow-Receipt and Acceptance (WAWF-RA). Information regarding WAWF-RA is available on the Internet at <https://wawf.eb.mil>.

(2) Web Invoicing System (WInS). Information regarding WInS is available on the Internet at <https://ecweb.dfas.mil>.

(3) American National Standards Institute (ANSI) X.12 electronic data interchange (EDI) formats.

(i) Information regarding EDI formats is available on the Internet at <http://www.X12.org>.

(ii) EDI implementation guides are available on the Internet at <http://www.dfas.mil/ecedi>.



(4) Another electronic form authorized by the Contracting Officer.

(c) If the Contractor is unable to submit a payment request in electronic form, or DoD is unable to receive a payment request in electronic form, the Contractor shall submit the payment request using a method mutually agreed to by the Contractor, the Contracting Officer, the contract administration office, and the payment office.

(d) In addition to the requirements of this clause, the Contractor shall meet the requirements of the appropriate payment clauses in this contract when submitting payments requests.

(End of clause)

**252.236-7000 MODIFICATION PROPOSALS - PRICE BREAKDOWN. (DEC 1991)**

(a) The Contractor shall furnish a price breakdown, itemized as required and within the time specified by the Contracting Officer, with any proposal for a contract modification.

(b) The price breakdown --

(1) Must include sufficient detail to permit an analysis of profit, and of all costs for --

(i) Material;

(ii) Labor;

(iii) Equipment;

(iv) Subcontracts; and

(v) Overhead; and

(2) Must cover all work involved in the modification, whether the work was deleted, added, or changed.

(c) The Contractor shall provide similar price breakdowns to support any amounts claimed for subcontracts.

(d) The Contractor's proposal shall include a justification for any time extension proposed.

**252.236-7001 CONTRACT DRAWINGS, MAPS, AND SPECIFICATIONS (AUG 2000)**

(a) The Government will provide to the Contractor, without charge, one set of contract drawings and specifications, except publications incorporated into the technical provisions by reference, in electronic or paper media as chosen by the Contracting Officer.

(b) The Contractor shall--

(1) Check all drawings furnished immediately upon receipt;

(2) Compare all drawings and verify the figures before laying out the work;

(3) Promptly notify the Contracting Officer of any discrepancies;

(4) Be responsible for any errors that might have been avoided by complying with this paragraph (b); and

(5) Reproduce and print contract drawings and specifications as needed.

(c) In general--

(1) Large-scale drawings shall govern small-scale drawings; and

(2) The Contractor shall follow figures marked on drawings in preference to scale measurements.

(d) Omissions from the drawings or specifications or the misdescription of details of work that are manifestly necessary to carry out the intent of the drawings and specifications, or that are customarily performed, shall not relieve the Contractor from performing such omitted or misdescribed details of the work. The Contractor shall perform such details as if fully and correctly set forth and described in the drawings and specifications.

(e) The work shall conform to the specifications and the contract drawings identified on the following index of drawings:

Title	File	Drawing No.
See M-L5-P-00/009		
(End of clause)		

**252.236-7002 OBSTRUCTION OF NAVIGABLE WATERWAYS. (DEC 1991)**

(a) The Contractor shall --

(1) Promptly recover and remove any material, plant, machinery, or appliance which the contractor loses, dumps, throws overboard, sinks, or misplaces, and which, in the opinion of the Contracting Officer, may be dangerous to or obstruct navigation;

(2) Give immediate notice, with description and locations of any such obstructions, to the Contracting Officer; and

(3) When required by the Contracting Officer, mark or buoy such obstructions until the same are removed.

(b) The Contracting Officer may --

(1) Remove the obstructions by contract or otherwise should the Contractor refuse, neglect, or delay compliance with paragraph (a) of this clause; and

(2) Deduct the cost of removal from any monies due or to become due to the Contractor; or

(3) Recover the cost of removal under the Contractor's bond.

(c) The Contractor's liability for the removal of a vessel wrecked or sunk without fault or negligence is limited to that provided in sections 15, 19, and 20 of the River and Harbor Act of March 3, 1899 (33 U.S.C. 410 et. seq.).

**252.236-7008 CONTRACT PRICES - BIDDING SCHEDULES. (DEC 1991)**

(a) The Government's payment for the items listed in the Bidding Schedule shall constitute full compensation to the Contractor for --

- (1) Furnishing all plant, labor, equipment, appliances, and materials; and
  - (2) Performing all operations required to complete the work in conformity with the drawings and specifications.
- (b) The Contractor shall include in the prices for the items listed in the Bidding Schedule all costs for work in the specifications, whether or not specifically listed in the Bidding Schedule.

**252.242-7000 POSTAWARD CONFERENCE (DEC 1991)**

The Contractor agrees to attend any postaward conference convened by the contracting activity or contract administration office in accordance with Federal Acquisition Regulation subpart 42.5.

(End of clause)

**252.243-7001 PRICING OF CONTRACT MODIFICATIONS (DEC 1991)**

When costs are a factor in any price adjustment under this contract, the contract cost principles and procedures in FAR part 31 and DFARS part 231, in effect on the date of this contract, apply.

**252.243-7002 REQUESTS FOR EQUITABLE ADJUSTMENT (MAR 1998)**

(a) The amount of any request for equitable adjustment to contract terms shall accurately reflect the contract adjustment for which the Contractor believes the Government is liable. The request shall include only costs for performing the change, and shall not include any costs that already have been reimbursed or that have been separately claimed. All indirect costs included in the request shall be properly allocable to the change in accordance with applicable acquisition regulations.

(b) In accordance with 10 U.S.C. 2410(a), any request for equitable adjustment to contract terms that exceeds the simplified acquisition threshold shall bear, at the time of submission, the following certificate executed by an individual authorized to certify the request on behalf of the Contractor:

I certify that the request is made in good faith, and that the supporting data are accurate and complete to the best of my knowledge and belief.

-----  
(Official's Name)

-----  
(Title)

(c) The certification in paragraph (b) of this clause requires full disclosure of all relevant facts, including--

(1) Cost or pricing data if required in accordance with subsection 15.403-4 of the Federal Acquisition Regulation (FAR); and

(2) Information other than cost or pricing data, in accordance with subsection 15.403-3 of the FAR, including actual cost data and data to support any estimated costs, even if cost or pricing data are not required.

(d) The certification requirement in paragraph (b) of this clause does not apply to----

(1) Requests for routine contract payments; for example, requests for payment for accepted supplies and services, routine vouchers under a cost-reimbursement type contract, or progress payment invoices; or

(2) Final adjustment under an incentive provision of the contract.

**252.244-7000 SUBCONTRACTS FOR COMMERCIAL ITEMS AND COMMERCIAL COMPONENTS (DOD) (MAR 2000)**

In addition to the clauses listed in paragraph (c) of the Subcontracts for Commercial Items and Commercial Components clause of this contract (Federal Acquisition Regulation 52.244-6), the Contractor shall include the terms of the following clauses, if applicable, in subcontracts for commercial items or commercial components, awarded at any tier under this contract:

252.225-7014 Preference for Domestic Specialty Metals, Alternate I (10 U.S.C. 2241 note).

252.247-7023 Transportation of Supplies by Sea (10 U.S.C. 2631).

252.247-7024 Notification of Transportation of Supplies by Sea (10 U.S.C. 2631).

(End of clause)

**252.246-7000 MATERIAL INSPECTION AND RECEIVING REPORT (MAR 2003)**

(a) At the time of each delivery of supplies or services under this contract, the Contractor shall prepare and furnish to the Government a material inspection and receiving report in the manner and to the extent required by Appendix F, Material Inspection and Receiving Report, of the Defense FAR Supplement.

(b) Contractor submission of the material inspection and receiving information required by Appendix F of the Defense FAR Supplement by using the Wide Area WorkFlow-Receipt and Acceptance (WAWF-RA) electronic form (see paragraph (b)(1) of the clause at 252.232-7003) fulfills the requirement for a material inspection and receiving report (DD Form 250).

(End of clause)

**252.247-7023 TRANSPORTATION OF SUPPLIES BY SEA (MAY 2002)**

(a) Definitions. As used in this clause --

(1) "Components" means articles, materials, and supplies incorporated directly into end products at any level of manufacture, fabrication, or assembly by the Contractor or any subcontractor.

(2) "Department of Defense" (DoD) means the Army, Navy, Air Force, Marine Corps, and defense agencies.

(3) "Foreign flag vessel" means any vessel that is not a U.S.-flag vessel.

(4) "Ocean transportation" means any transportation aboard a ship, vessel, boat, barge, or ferry through international waters.

(5) "Subcontractor" means a supplier, materialman, distributor, or vendor at any level below the prime contractor whose contractual obligation to perform results from, or is conditioned upon, award of the prime contract and who is performing any part of the work or other requirement of the prime contract.

(6) "Supplies" means all property, except land and interests in land, that is clearly identifiable for eventual use by or owned by the DoD at the time of transportation by sea.

(i) An item is clearly identifiable for eventual use by the DoD if, for example, the contract documentation contains a reference to a DoD contract number or a military destination.

(ii) "Supplies" includes (but is not limited to) public works; buildings and facilities; ships; floating equipment and vessels of every character, type, and description, with parts, subassemblies, accessories, and equipment; machine tools; material; equipment; stores of all kinds; end items; construction materials; and components of the foregoing.

(7) "U.S.-flag vessel" means a vessel of the United States or belonging to the United States, including any vessel registered or having national status under the laws of the United States.

(b)(1) The Contractor shall use U.S.-flag vessels when transporting any supplies by sea under this contract.

(2) A subcontractor transporting supplies by sea under this contract shall use U.S.-flag vessels if--

(i) This contract is a construction contract; or

(ii) The supplies being transported are--

(A) Noncommercial items; or

(B) Commercial items that--

(1) The Contractor is reselling or distributing to the Government without adding value (generally, the Contractor does not add value to items that it contracts for f.o.b. destination shipment);

(2) Are shipped in direct support of U.S. military contingency operations, exercises, or forces deployed in humanitarian or peacekeeping operations; or

(3) Are commissary or exchange cargoes transported outside of the Defense Transportation System in accordance with 10 U.S.C. 2643.

(c) The Contractor and its subcontractors may request that the Contracting Officer authorize shipment in foreign-flag vessels, or designate available U.S.-flag vessels, if the Contractor or a subcontractor believes that --

(1) U.S.-flag vessels are not available for timely shipment;

(2) The freight charges are inordinately excessive or unreasonable; or

(3) Freight charges are higher than charges to private persons for transportation of like goods.

(d) The Contractor must submit any request for use of other than U.S.-flag vessels in writing to the Contracting Officer at least 45 days prior to the sailing date necessary to meet its delivery schedules. The Contracting Officer will process requests submitted after such date(s) as expeditiously as possible, but the Contracting Officer's failure to grant approvals to meet the shipper's sailing date will not of itself constitute a compensable delay under this or any other clause of this contract. Requests shall contain at a minimum --

- (1) Type, weight, and cube of cargo;
  - (2) Required shipping date;
  - (3) Special handling and discharge requirements;
  - (4) Loading and discharge points;
  - (5) Name of shipper and consignee;
  - (6) Prime contract number; and
  - (7) A documented description of efforts made to secure U.S.-flag vessels, including points of contact (with names and telephone numbers) with at least two U.S.-flag carriers contacted. Copies of telephone notes, telegraphic and facsimile message or letters will be sufficient for this purpose.
- (e) The Contractor shall, within 30 days after each shipment covered by this clause, provide the Contracting Officer and the Maritime Administration, Office of Cargo Preference, U.S. Department of Transportation, 400 Seventh Street SW., Washington, DC 20590, one copy of the rated on board vessel operating carrier's ocean bill of lading, which shall contain the following information:
- (1) Prime contract number;
  - (2) Name of vessel;
  - (3) Vessel flag of registry;
  - (4) Date of loading;
  - (5) Port of loading;
  - (6) Port of final discharge;
  - (7) Description of commodity;
  - (8) Gross weight in pounds and cubic feet if available;
  - (9) Total ocean freight in U.S. dollars; and
  - (10) Name of the steamship company.
- (f) The Contractor shall provide with its final invoice under this contract a representation that to the best of its knowledge and belief--
- (1) No ocean transportation was used in the performance of this contract;
  - (2) Ocean transportation was used and only U.S.-flag vessels were used for all ocean shipments under the contract;
  - (3) Ocean transportation was used, and the Contractor had the written consent of the Contracting Officer for all non-U.S.-flag ocean transportation; or
  - (4) Ocean transportation was used and some or all of the shipments were made on non-U.S.-flag vessels without the written consent of the Contracting Officer. The Contractor shall describe these shipments in the following format:

ITEM DESCRIPTION	CONTRACT LINE ITEMS	QUANTITY
_____	_____	_____
_____	_____	_____
_____	_____	_____
TOTAL	_____	_____

(g) If the final invoice does not include the required representation, the Government will reject and return it to the Contractor as an improper invoice for the purposes of the Prompt Payment clause of this contract. In the event there has been unauthorized use of non-U.S.-flag vessels in the performance of this contract, the Contracting Officer is entitled to equitably adjust the contract, based on the unauthorized use.

(h) In the award of subcontracts for the types of supplies described in paragraph (b)(2) of this clause, the Contractor shall flow down the requirements of this clause as follows:

(1) The Contractor shall insert the substance of this clause, including this paragraph (h), in subcontracts that exceed the simplified acquisition threshold in part 2 of the Federal Acquisition Regulation.

(2) The Contractor shall insert the substance of paragraphs (a) through (e) of this clause, and this paragraph (h), in subcontracts that are at or below the simplified acquisition threshold in part 2 of the Federal Acquisition Regulation.

(End of clause)

***252.247-7024 NOTIFICATION OF TRANSPORTATION OF SUPPLIES BY SEA (MAR 2000)***

(a) The Contractor has indicated by the response to the solicitation provision, Representation of Extent of Transportation by Sea, that it did not anticipate transporting by sea any supplies. If, however, after the award of this contract, the Contractor learns that supplies, as defined in the Transportation of Supplies by Sea clause of this contract, will be transported by sea, the Contractor --

(1) Shall notify the Contracting Officer of that fact; and

(2) Hereby agrees to comply with all the terms and conditions of the Transportation of Supplies by Sea clause of this contract.

(b) The Contractor shall include this clause; including this paragraph (b), revised as necessary to reflect the relationship of the contracting parties--

(1) In all subcontracts under this contract, if this contract is a construction contract; or

(2) If this contract is not a construction contract, in all subcontracts under this contract that are for--

(i) Noncommercial items; or

(ii) Commercial items that--

(A) The Contractor is reselling or distributing to the Government without adding value (generally, the Contractor does not add value to items that it subcontracts for f.o.b. destination shipment);

(B) Are shipped in direct support of U.S. military contingency operations, exercises, or forces deployed in humanitarian or peacekeeping operations; or

(C) Are commissary or exchange cargoes transported outside of the Defense Transportation System in accordance with 10 U.S.C. 2643.

(End of clause)



**SECTION 00800 - Special Contract Requirements****CLAUSES INCORPORATED BY FULL TEXT****52.000-4004 PARTNERING**

The Government proposes to form a partnering relationship with the contractor. This partnering relationship will strive to facilitate communication and draw on the strengths of each organization in an effort to achieve a quality project, within budget, and on schedule. Participation will be totally voluntary. Partnering will not alter or supersede any provision of this contract nor will it provide either party with any additional contractual rights or obligations. Participation in partnering will not affect award of this contract. Any cost associated with this partnering will be agreed to by both parties and will be shared equally, with no change in contract price.

**52.211-10 COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK (APR 1984) -  
ALTERNATE I (APR 1984)**

The Contractor shall be required to (a) commence work under this contract within 10 calendar days after the date the Contractor receives the notice to proceed, (b) prosecute the work diligently, and (c) complete the entire work ready for use not later than 1 March 2005. The time stated for completion shall include final cleanup of the premises.

The completion date is based on the assumption that the successful offeror will receive the notice to proceed by 15 September 2004. The completion date will be extended by the number of calendar days after the above date that the Contractor receives the notice to proceed, except to the extent that the delay in issuance of the notice to proceed results from the failure of the Contractor to execute the contract and give the required performance and payment bonds within the time specified in the offer.

(End of clause)

**52.211-12 LIQUIDATED DAMAGES--CONSTRUCTION (SEP 2000)**

(a) If the Contractor fails to complete the work within the time specified in the contract for the work associated with Lock 2, CLINs 0001 through 0007, the Contractor shall pay liquidated damages to the Government in the amount of \$730.00 for each calendar day of delay until the work is completed or accepted. If the Contractor fails to complete the work within the time specified in the contract for the work associated with Lock 5, CLINs 0008 through 0014, the Contractor shall pay liquidated damages to the Government in the amount of \$670.00 for each calendar day of delay until the work is completed or accepted.

(b) If the Government terminates the Contractor's right to proceed, liquidated damages will continue to accrue until the work is completed. These liquidated damages are in addition to excess costs of repurchase under the Termination clause.

(End of clause)

**52.212-4003 TIME EXTENSIONS FOR UNUSUALLY SEVERE WEATHER (OCT 1989) ER 415-1-15**

a. This provision specifies the procedure for the determination of time extensions for unusually severe weather in accordance with the CONTRACT CLAUSES: DEFAULT (FIXED-PRICE CONSTRUCTION). In order for the Contracting Officer to award a time extension under this clause, the following conditions must be satisfied:

1) The weather experienced at the project site during the contract period must be found to be unusually severe, that is, more severe than the adverse weather anticipated for the project location during any given month.

2) The unusually severe weather must actually cause a delay to the completion of the project. The delay must be beyond the control and without the fault or negligence of the contractor.

b. The following schedule of monthly anticipated adverse weather delays is based on National Oceanic and Atmospheric Administration (NOAA) or similar data for the project location and will constitute the base line for monthly weather time evaluations. The contractor's progress schedule must reflect these anticipated adverse weather delays in all weather dependent activities. The data shown below is for precipitation of 0.1 inch or more and maximum daily temperatures less than 10 degrees Fahrenheit. The actual numbers have been multiplied by 5/7 to account for the workweek. The chosen temperature threshold reflects the expectation that the work will be completed in the December through March timeframe.

**MONTHLY ANTICIPATED ADVERSE WEATHER DELAY  
WORKDAYS BASED ON (5) DAY WORKWEEK.**

**GEOGRAPHIC LOCATION Hasting, MN Lock 2 (Dakota County)**

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
6	3	3	4	5	5	4	4	4	3	3	3

**GEOGRAPHIC LOCATION Winona, MN Lock 5 (Winona County)**

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
5	3	3	5	5	5	4	5	4	3	3	4

c. Upon acknowledgment of the Notice to Proceed (NTP) and continuing throughout the contract, the contractor will record on the daily CQC report, the occurrence of adverse weather and resultant impact to normally scheduled work. Actual adverse weather delay days must prevent work on critical activities for 50 percent or more of the Contractor's scheduled workday. The number of actual adverse weather delay days shall include days impacted by actual adverse weather (even if adverse weather occurred in previous month), be calculated chronologically from the first to the last day of each month, and be recorded as full days. If the number of actual adverse weather delay days exceeds the number of days anticipated in paragraph b, above, the Contracting Officer will convert any qualifying delays to calendar days, giving full consideration for equivalent fair weather work days, and issue a modification in accordance with the CONTRACT CLAUSES: DEFAULT (FIXED-PRICE CONSTRUCTION).

**52.214-5000 ARITHMETIC DISCREPANCIES – EFARS**

(a) For the purpose of initial evaluation of bids, the following will be utilized in resolving arithmetic discrepancies found on the face of bidding schedule as submitted by the bidder:

- (1) Obviously misplaced decimal points will be corrected;
  - (i) Discrepancy between unit price and extended price, the unit price will govern;
  - (ii) Apparent errors in extension of unit prices will be corrected;
  - (iii) Apparent errors in addition of lump sum and extended prices will be corrected.

(b) For the purpose of bid evaluation, the government will proceed on the assumption that the bidder intends his bid to be evaluated on basis of the unit prices, the totals arrived at by resolution of arithmetic discrepancies as provided above and the bid will be so reflected on the abstract of bids.

(c) These correction procedures shall not be used to resolve any ambiguity concerning which bid is low.

(End of statement)

## **52.228-4002 INSURANCE**

As referenced in Contract Clause: INSURANCE--WORK ON A GOVERNMENT INSTALLATION, the following types and amounts of insurance are required under this contract.

Type	Amount
Worker's Compensation and Employer's Liability Insurance:	
Coverage A Worker's Compensation	Compliance with State of Minnesota Worker's Compensation Law
Coverage B Employer's Liability	\$ 100,000
General Liability Insurance:	
Bodily Injury	\$1,000,000 per occurrence
Property Damage	Not Required
Automobile Liability Insurance (Comprehensive Policy Form):	
Bodily Injury	\$ 500,000 per person and \$1,000,000 per occurrence
Property Damage	\$ 100,000 per occurrence

## **52.231-5000 EQUIPMENT OWNERSHIP AND OPERATING EXPENSE SCHEDULE (MAR 1995)— EFARS**

(a) This clause does not apply to terminations. See 52.249-5000, Basis for Settlement of Proposals and FAR Part 49.

(b) Allowable cost for construction and marine plant and equipment in sound workable condition owned or controlled and furnished by a contractor or subcontractor at any tier shall be based on actual cost data for each piece of equipment or groups of similar serial and series for which the Government can determine both ownership and operating costs from the contractor's accounting records. When both ownership and operating costs cannot be determined for any piece of equipment or groups of similar serial or series equipment from the contractor's accounting records, costs for that equipment shall be based upon the applicable provisions of EP 1110-1-8, Construction Equipment Ownership and Operating Expense Schedule, Region [IV]. Working conditions shall be considered to be average for determining equipment rates using the schedule unless specified otherwise by the contracting officer. For equipment not included in the schedule, rates for comparable pieces of equipment may be used or a rate may be

developed using the formula provided in the schedule. For forward pricing, the schedule in effect at the time of negotiations shall apply. For retroactive pricing, the schedule in effect at the time the work was performed shall apply.

(c) Equipment rental costs are allowable, subject to the provisions of FAR 31.105(d)(ii) and FAR 31.205-36. Rates for equipment rented from an organization under common control, lease-purchase arrangements, and sale-leaseback arrangements, will be determined using the schedule, except that actual rates will be used for equipment leased from an organization under common control that has an established practice of leasing the same or similar equipment to unaffiliated lessees.

(d) When actual equipment costs are proposed and the total amount of the pricing action exceeds the small purchase threshold, the contracting officer shall request the contractor to submit either certified cost or pricing data, or partial/limited data, as appropriate. The data shall be submitted on Standard Form 1411, Contract Pricing Proposal Cover Sheet.

(End of clause)

#### **52.232-4004 INVOICE PROCEDURES**

In accordance with CONTRACT CLAUSE titled "PROMPT PAYMENT FOR CONSTRUCTION CONTRACTS", the contractor shall submit invoices as follows:

a. In order to qualify for a periodic payment, the Contractor must submit a proper invoice (request for payment) to the Contracting Officer's Representative (COR) and a determination must be made that supplies or services conform to the contract requirements. This determination will be made for the sole purpose of processing progress payments and will not constitute formal acceptance. The due date for making progress payments shall be as stated in the contract clause: PROMPT PAYMENT FOR CONSTRUCTION CONTRACTS.

b. The submitted request for payment must be accompanied with documentation adequate to substantiate the amount requested. Substantiation shall be consistent with the clauses in the solicitation titled Quantity Surveys, Purchase Orders, Invoices, etc. satisfactory to the COR.

c. The Contractor must also include with the payment request a certification as described in the Clause "PAYMENT UNDER FIXED-PRICE CONSTRUCTION CONTRACTS".

d. Payment requests will be reviewed for propriety by the COR. Defective invoices will be returned to the Contractor for resolution with defects identified. Along with the returned invoice, the COR may include, at its option, an ENG FORM 93-PAYMENT ESTIMATE reflecting the substantiated and uncontested payment amount. The Contractor will then be given the option of signing and returning the FORM 93 for payment along with the original invoice and certification or resubmitting a revised invoice and certification. To expedite payment, the Contractor may request in writing that the COR retain the defective invoice and immediately process the payment request at the amount determined to be acceptable to the Government.

#### **52.232-5001 CONTINUING CONTRACTS (MAR 1995) - EFARS**

(a) This is a continuing contract, as authorized by Section 10 of the River and Harbor Act of September 22, 1922 (33 U.S. Code 621). The payment of some portion of the contract price is dependent upon reservations of funds from future appropriations, and from future contribution to the project having one or more non-federal project sponsors. The responsibilities of the Government are limited by this clause notwithstanding any contrary provision of the "Payments to Contractor" clause or any other clause of this contract.

(b) The sum of **\$25,000.00 for Lock 2 and \$25,000.00 for Lock 5** has been reserved for this contract and is available for payments to the contractor during the current fiscal year. It is expected that Congress will make appropriations for future fiscal years from which additional funds together with funds provided by one or more non-federal project sponsors will be reserved for this contract.

(c) Failure to make payments in excess of the amount currently reserved, or that may be reserved from time to time, shall not entitle the contractor to a price adjustment under the terms of this contract except as specifically provided in paragraphs (f) and (i) below. No such failure shall constitute a breach of this contract, except that this provision shall not bar a breach-of-contract action if an amount finally determined to be due as a termination allowance remains unpaid for one year due solely to a failure to reserve sufficient additional funds therefore.

(d) The Government may at any time reserve additional funds for payments under the contract if there are funds available for such purpose. The contracting officer will promptly notify the contractor of any additional funds reserved for the contract by issuing an administrative modification to the contract.

(e) If earnings will be such that funds reserved for the contract will be exhausted before the end of any fiscal year, the contractor shall give written notice to the contracting officer of the estimated date of exhaustion and the amount of additional funds which will be needed to meet payments due or to become due under the contract during that fiscal year. This notice shall be given not less than 45 nor more than 60 days prior to the estimated date of exhaustion.

(f) No payments will be made after exhaustion of funds except to the extent that additional funds are reserved for the contract. The contractor shall be entitled to simple interest on any payment that the contracting officer determines was actually earned under the terms of the contract and would have been made except for exhaustion of funds. Interest shall be computed from the time such payment would otherwise have been made until actually or constructively made, and shall be at the rate established by the Secretary of the Treasury pursuant to Public Law 92-41, 85 STAT 97, as in effect on the first day of the delay in such payment.

(g) Any suspension, delay, or interruption of work arising from exhaustion or anticipated exhaustion of funds shall not constitute a breach of this contract and shall not entitle the contractor to any price adjustment under the "Suspension of Work" clause or in any other manner under this contract.

(h) An equitable adjustment in performance time shall be made for any increase in the time required for performance of any part of the work arising from exhaustion of funds or the reasonable anticipation of exhaustion of funds.

(i) If, upon the expiration of sixty (60) days after the beginning of the fiscal year following an exhaustion of funds, the Government has failed to reserve sufficient additional funds to cover payments otherwise due, the contractor, by written notice delivered to the contracting officer at any time before such additional funds are reserved, may elect to treat his right to proceed with the work as having been terminated. Such a termination shall be considered a termination for the convenience of the Government.

(j) If at any time it becomes apparent that the funds reserved for any fiscal year are in excess of the funds required to meet all payments due or to become due the contractor because of work performed and to be performed under the contract during the fiscal year, the Government reserves the right, after notice to the contractor, to reduce said reservation by the amount of such excess.

(End of clause)

**52.236-4006 SAFETY AND HEALTH REQUIREMENTS MANUAL INTERIM CHANGES, EM 385-1-1 (APR 2001)**

This paragraph applies to contracts and purchase orders that require the contractor to comply with EM 385-1-1 (e.g., contracts that include the Accident Prevention clause at FAR 52.236-13 and/or other safety provisions). EM 385-1-1 and its changes are available at <http://www.hq.usace.army.mil> (at the HQ homepage, select Safety and Occupational Health). The Contractor shall be responsible for complying with the current edition and all changes posted on the web as of the effective date of this solicitation.

**52.236-4014 PURCHASE ORDERS**

Two legible copies of each purchase order issued by the Contractor or the Contractor's subcontractors for materials and equipment to be incorporated into the project, shall be furnished the Contracting Officer as soon as issued. Each purchase order shall (1) be clearly identified with applicable Department of Army contract number, (2) carry and identifying number, (3) be in sufficient detail to identify the material being purchased, and (4) indicate a definite delivery date. At the option of the Contractor, the copies of the purchase orders may or may not indicate the price of the articles purchased.

**52.236-4025 FLOATING PLANT EQUIPMENT (MAY 1999)**

When mechanized equipment is operated on floating plant, the contractor shall provide positive and acceptable means of preventing this equipment from moving or falling into the water. The type of equipment addressed by this clause includes front-end loaders, bulldozers, trucks (both on and off-road), backhoes, trackhoes, and similar equipment. If the Contractor plans to use such equipment on floating plant, an activity hazard analysis must be developed for this feature of work. The plan must include a detailed explanation of the type or types of physical barriers, curbs, structures, etc., which will be incorporated to protect the operator and prevent the equipment from entering the water. Nonstructural warning devices may be considered for situations where the use of structural barriers is determined to be impracticable. The activity hazard analysis must thoroughly address the procedure and be submitted to the Corps of engineers for review and acceptance prior to start of this feature of work.

**52.236-5000 PLANT AND MATERIAL REMOVAL AFTER CONTRACT TERMINATION (MAR 1995) - EFARS**

Should this contract be terminated as provided in clause 52.232-5001 because of the failure of Congress to provide additional funds for its completion, the contractor may be permitted to remove plant and material on which payments for preparatory work have been made, subject to an equitable deduction from the amounts due the contractor to reimburse the United States for the unabsorbed value of such plant and material.

(End of clause)

**52.239-4001 YEAR 2000 COMPLIANCE (FAR 39.106) (JUL 1998)**

The contractor shall ensure that, with respect to any design, construction, goods, or services under this contract as well as any subsequent task/delivery orders issued under this contract (if applicable), all information technology contained therein shall be Year 2000 compliant. Specifically, the contractor shall perform, maintain, and provide an

inventory of all major components to include structures, equipment, items, parts, and furnishings under this contract and each task/delivery order which may be affected by the Year 2000 compliance requirement.

**52.246-4001      *LABORATORY AND TESTING FACILITIES***

The Contractor shall provide and maintain all measuring and testing devices, laboratory equipment, instruments, transportation, and supplies necessary to accomplish the required testing. All measuring and testing devices shall be calibrated at established intervals against certified standards. The Contractor's measuring and testing equipment shall be made available for use by the Government for verification of their accuracy and condition as well as for any inspection or test desired pursuant to SECTION 00700: INSPECTION OF CONSTRUCTION. The location of the laboratory shall be convenient to the site such that test results are available prior to proceeding with the next sequential phase of the work.

**52.249-5000      *BASIS FOR SETTLEMENT OF PROPOSALS***

“Actual costs will be used to determine equipment costs for a settlement proposal submitted on the total cost basis under FAR 49.206-2(b). In evaluating a terminations settlement proposal using the total cost basis, the following principles will be applied to determine allowable equipment costs:

- (1) Actual costs for each piece of equipment, or groups of similar serial or series equipment, need not be available in the contractor's accounting records to determine total actual equipment costs.
- (2) If equipment costs have been allocated to a contract using predetermined rates, those charges will be adjusted to actual costs.
- (3) Recorded job costs adjusted for unallowable expenses will be used to determine equipment operating expenses.
- (4) Ownership costs (depreciation) will be determined using the contractor's depreciation schedule (subject to the provisions of FAR 31.205-11).
- (5) License, taxes, storage and insurance costs are normally recovered as an indirect expense and unless the contractor charges these costs directly to contracts, they will be recovered through the indirect expense rate.”

(End of Clause)

## Section 00830

### ATTACHMENTS TO CONTRACT CLAUSES

<u>Attachment</u>	<u>Description</u>	<u>Page Number</u>
A	WAGE RATES FOR LOCK 2	00830-A-1
B	WAGE RATES FOR LOCK 5	00830-B-1
C	LOCK AND DAM 2 OPENING AND CLOSING DATES	00830-C-1
D	LOCK AND DAM 5 OPENING AND CLOSING DATES	00830-D-1





Section 00830

ATTACHMENT A

WAGE RATES  
LOCK 2



**General Decision Number: MN030061 05/14/2004**General Decision Number: **MN030061** 05/14/2004

Superseded General Decision Number: MN020061

State: **Minnesota**

Construction Types: Heavy (Heavy, Sewer and Water Line, and Treatment Plant)

Counties: Anoka, Benton, Carver, Chisago, Clay, Dakota, Hennepin, Houston, Isanti, Olmsted, Polk, Ramsey, Scott, Sherburne, St Louis, Stearns, Washington and Wright Counties in **Minnesota**.

CLAY &amp; POLK COUNTIES

TREATMENT PLANTS, HEAVY, SEWER &amp; WATER LINES

Modification Number Publication Date

0	06/13/2003
1	01/02/2004
2	04/09/2004
3	04/23/2004
4	05/14/2004

ASBE0034-006 06/01/2003

ANOKA, BENTON, CARVER, CHISAGO, DAKOTA, HENNEPIN, HOUSTON, ISANTI, OLMSTED, RAMSEY, SCOTT, SHERBURNE, STEARNS, WASHINGTON &amp; WRIGHT COUNTIES

	Rates	Fringes
Asbestos Workers/Insulator (Includes application of all insulating materials, protective coverings, coatings & finishes to all types of mechanical systems)...	\$ 31.04	13.24

ASBE0049-005 06/01/2002

ST. LOUIS COUNTY

	Rates	Fringes
Asbestos Workers/Insulator (Includes application of all insulating materials, protective coverings, coatings & finishes to all types of mechanical systems)...	\$ 28.33	8.93

ASBE0133-002 07/01/2002

CLAY &amp; POLK COUNTIES

	Rates	Fringes
Asbestos Workers/Insulator (Includes application of all insulating materials, protective coverings, coatings & finishings to all types of mechanical systems).....	\$ 22.43	7.60

ASBE0205-011 05/01/1998

ANOKA, BENTON, CARVER, CHISAGO, DAKOTA, HENNEPIN, HOUSTON, ISANTI, OLMSTED, RAMSEY, SCOTT, SHERBURNE, ST. LOUIS, STEARNS,

## WASHINGTON &amp; WRIGHT COUNTIES

	Rates	Fringes
Asbestos Removal worker/hazardous material handler (Includes preparation, wetting, stripping, removal, scrapping, vacuuming, bagging & disposing of all insulation materials, whether they contain asbestos or not, from mechanical systems).....	\$ 18.21	3.30

## BOIL0647-004 07/01/2003

	Rates	Fringes
Boilermaker.....	\$ 27.45	12.31

## BRMN0001-026 05/01/2003

ANOKA, CARVER, CHISAGO, DAKOTA, HENNEPIN, ISANTI, RAMSEY,  
SCOTT, SHERBURNE (City of Elk River), WASHINGTON & WRIGHT  
COUNTIES

	Rates	Fringes
Bricklayer, Stonemason.....	\$ 29.69	9.75

## BRMN0001-027 05/01/2003

BENTON, SHERBURNE (Excluding city of Elk River) & STEARNS  
COUNTIES

	Rates	Fringes
Bricklayer Bricklayer, Blocklayer, Stonemason.....	\$ 28.20	9.75

## BRMN0001-028 05/01/2003

Treatment Plants  
BENTON & STEARNS COUNTIES

	Rates	Fringes
Cement Mason Benton & Stearns Counties.....	\$ 27.75	9.65
Plasterer Stearns County.....	\$ 27.75	9.65

## BRMN0001-029 05/01/2003

ANOKA, BENTON, CARVER, CHISAGO, CLAY, DAKOTA, HENNEPIN,  
HOUSTON, ISANTI, POLK, RAMSEY, SCOTT, SHERBURNE, ST. LOUIS  
(Excluding Duluth and south of Township Line 55), STEARNS,  
WASHINGTON & WRIGHT COUNTIES

	Rates	Fringes
Tile Setter.....	\$ 27.81	11.10

## BRMN0001-030 05/01/2003

	Rates	Fringes
Tile Finisher.....	\$ 23.57	9.55

## BRMN0001-031 05/01/2003

	Rates	Fringes
Marble Setter.....	\$ 29.69	9.75

## BRMN0001-036 05/01/2003

	Rates	Fringes
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Terrazzo Worker		
Base Machine.....	\$ 28.84	9.65
Finisher.....	\$ 28.51	9.65
Mechanic.....	\$ 28.31	10.70
-----		
BRMN0003-005 05/01/2003		
ST. LOUIS (South of a line between Townships #54 & #55, 2 miles north of Cotton) COUNTY		
	Rates	Fringes
Bricklayer.....	\$ 26.81	11.53
-----		
BRMN0003-006 05/01/2003		
ST. LOUIS COUNTY (S. of a line between Townships 54 & 55 (2 miles north of Cotton)		
	Rates	Fringes
Tile Layer.....	\$ 23.06	10.00
-----		
BRMN0007-003 05/01/2003		
HOUSTON COUNTY		
	Rates	Fringes
Bricklayer		
Bricklayer, Blocklayer,		
Caulker, Cleaner,		
Pointer, Stonemason.....	\$ 28.39	10.10
-----		
BRMN0008-008 05/01/2003		
OLMSTED COUNTY		
	Rates	Fringes
Bricklayer		
Bricklayer, Caulker,		
Cleaner, Pointer,		
Stonemason.....	\$ 29.24	10.10
-----		
BRMN0008-009 05/01/2003		
OLMSTED COUNTY		
	Rates	Fringes
Tile Layer.....	\$ 27.99	
-----		
BRMN0015-008 05/01/2003		
CLAY AND POLK COUNTIES		
	Rates	Fringes
Bricklayer.....	\$ 26.80	10.00
-----		
BRMN0015-009 05/01/2003		
CLAY COUNTY		
	Rates	Fringes
Cement Mason.....	\$ 25.60	9.90
-----		
BRMN0016-003 05/01/2003		
ST. LOUIS (North of a line between Townships #54 & #55, 2 miles north of Cotton) COUNTY		
	Rates	Fringes
Bricklayer.....	\$ 26.11	12.20
-----		
CARP0087-006 05/01/2002		
ANOKA, CARVER, CHISAGO, DAKOTA, HENNEPIN, ISANTI, RAMSEY, SCOTT, SHERBURNE (Excluding St. Cloud & extending 5 miles beyond the city limits of St. Cloud), WASHINGTON & WRIGHT COUNTIES		
	Rates	Fringes
Carpenters: (Treatment		

Plants)		
Carpenter, Insulator, Piledriverman.....	\$ 28.66	7.88
-----		
CARP0087-012 05/01/2002		
ANOKA, CARVER, CHISAGO, DAKOTA, HENNEPIN, ISANTI, RAMSEY, SCOTT, SHERBURNE, WASHINGTON, AND WRIGHT COUNTIES		
	Rates	Fringes
Carpenter & Piledrivermen (Heavy, Sewer & Water Lines)...	\$ 26.17	9.80
-----		
CARP0190-007 05/01/1997		
ANOKA, BENTON, CARVER, CHISAGO, CLAY, DAKOTA, HENNEPIN, ISANTI, RAMSEY, SCOTT, SHERBURNE, STEARNS, WASHINGTON & WRIGHT COUNTIES		
	Rates	Fringes
Lather.....	\$ 22.45	7.04
-----		
CARP0190-009 06/01/2001		
HOUSTON AND OLMSTED COUNTIES		
	Rates	Fringes
Lather.....	\$ 24.34	5.04
-----		
CARP0361-007 05/01/2001		
ST. LOUIS (Alborn, Arnold, Bartlett, Birch, Brookstone, Canyon, Clinton, Culver, Duluth, Floodwood, Gowan, Island, Kelsey, Lakewood, Meadowlands, Munger, Palmers, Payne, Prasit, Shaw & Taft) COUNTY		
	Rates	Fringes
Carpenter (Treatment Plants)...	\$ 20.54	9.00
-----		
CARP0361-010 05/01/2001		
POLK & ST. LOUIS COUNTIES		
	Rates	Fringes
Lather.....	\$ 20.82	9.00
-----		
CARP0361-013 05/01/2001		
ST. LOUIS (Alborn, Arnold, Bartlett, Birch, Brookstone, Canyon, Clinton, Culver, Duluth, Floodwood, Gowan, Island, Kelsey, Lakewood, Meadowlands, Munger, Palmers, Payne, Prasit, Shaw & Taft) COUNTY		
	Rates	Fringes
Soft Floor Layer.....	\$ 19.73	9.91
-----		
CARP0361-020 05/01/2002		
ST LOUIS COUNTY (Southern 1/3 including Cotton, Floodwood, Fond Du Lac, and Proctor)		
	Rates	Fringes
Carpenter & Piledrivermen (Heavy, Sewer, and Water Lines).....	\$ 22.51	10.96
-----		
CARP0361-021 05/01/2002		
ST LOUIS COUNTY (Duluth)		
	Rates	Fringes
Carpenter & Piledrivermen (Heavy, Sewer, and Water Lines).....	\$ 22.91	10.96
-----		
CARP0548-006 04/28/2002		
ANOKA, BENTON, CARVER, CHISAGO, CLAY (Moorhead & up to 5 miles radius), DAKOTA, HENNEPIN, HOUSTON, ISANTI, OLMSTED, POLK (East		

Grand Forks & up to 5 miles radius), RAMSEY, SCOTT, SHERBURNE, STEARNS, WASHINGTON & WRIGHT COUNTIES

	Rates	Fringes
Millwright.....	\$ 29.44	8.18

-----  
CARP0596-004 06/01/2002

ANOKA, CARVER, CHISAGO, DAKOTA, HENNEPIN, ISANTI, RAMSEY, SCOTT, SHERBURNE (E. of Hwy #169, inclu. Zimmerman, Big Lake & Elk River), WASHINGTON & WRIGHT (S. of Hwy #12, inclu. Cokato, Buffalo & Monticello) COUNTIES

	Rates	Fringes
Soft Floor Layer.....	\$ 25.44	9.73

-----  
CARP0606-003 05/01/2002

CLAY AND POLK COUNTIES

	Rates	Fringes
Carpenter & Piledrivermen (Heavy, Sewer, and Water Lines).....	\$ 18.34	10.10

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CARP0606-004 05/01/2002

ST. LOUIS COUNTY (Excluding Alborn, Arnold, Bartlett, Birch, Brookstone, Canyon, Clinton, Culver, Duluth, Floodwood, Gowan, Island, Kelsey, Lakewood, Meadowlands, Munger, Palmers, Payne, Prasit, Shaw & Taft)

	Rates	Fringes
Carpenter (Treatment Plants) Carpenter, Piledriverman, Soft Floor Layer.....	\$ 19.96	10.10

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CARP0606-006 05/01/2002

POLK COUNTY (Excluding East Grand Forks and an area 5 miles outside city limits)

	Rates	Fringes
Carpenter & Piledrivermen (Treatment Plants)).....	\$ 16.49	8.96

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CARP0606-010 05/01/2002

ST LOUIS COUNTY (Northeast 2/3 including Cook, Cusson, Ely; and Western part including Chisholm, Greaney, and Orr)

	Rates	Fringes
Carpenter & Piledrivermen (Heavy, Sewer, and Water Lines).....	\$ 23.37	10.10

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CARP0930-002 05/01/2002

BENTON AND STEARNS COUNTIES

	Rates	Fringes
Carpenter & Piledrivermen (Heavy, Sewer & Water Lines)...	\$ 21.79	9.58

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CARP0930-004 05/01/2002

BENTON, SHERBURNE (Extreme NW portion, Including St. Cloud & extending 5 miles beyond the city limits of St. Cloud) & STEARNS COUNTIES

	Rates	Fringes
Carpenter & Piledrivermen (Treatment Plants).....	\$ 20.66	7.23

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\* CARP1176-002 05/01/2003



CLAY COUNTY (City of Moorhead & a radius of 5 miles NE & South of the city limits) & POLK COUNTY (East Grand Forks & an area 5 miles outside city limits)

	Rates	Fringes
Carpenter (Treatment Plants)...	\$ 16.00	9.40
Piledriverman (Treatment Plants).....	\$ 18.00	9.98

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CARP1348-003 05/01/2000

CLAY (Excluding Moorhead & up to 5 miles radius), POLK (Excluding East Grand Forks & up to 5 miles radius) & ST. LOUIS COUNTIES

	Rates	Fringes
Millwright (Treatment Plants).....	\$ 21.66	10.29

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CARP1382-004 05/01/2002

OLMSTED COUNTY

	Rates	Fringes
Carpenter & Piledrivermen (Treatment Plants).....	\$ 23.43	6.88

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CARP1382-008 05/01/2002

HOUSTON COUNTY

	Rates	Fringes
Carpenter & Piledrivermen (Treatment Plants).....	\$ 19.12	6.88

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CARP1382-016 05/01/2002

HOUSTON AND OLMSTED COUNTIES

	Rates	Fringes
Carpenter & Piledrivermen (Heavy, Sewer, and Water Lines).....	\$ 22.09	8.83

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ELEC0110-010 05/01/2002

ANOKA (Except Anoka & Fridley Townships & the cities of Andover, Anoka, Columbia Heights, Coon Rapids, Fridley, Hilltop, Ramsey & Spring Lake Park), CHISAGO, DAKOTA, ISANTI, RAMSEY, SHERBURNE (East of Becker & Santiago Townships) & WASHINGTON COUNTIES

	Rates	Fringes
Cable splicer.....	\$ 30.45	28.5%+5.77
Electrician.....	\$ 29.45	28.5%+5.77

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ELEC0110-011 03/01/1998

	Rates	Fringes
Communications System (SOUND, SIGNAL & COMMUNICATIONS WORK)		
Installer (Excluding Controller Work).....	\$ 11.31	.34+a+b
Technician (Installation of Controller Only).....	\$ 19.22	.58+a+b

FOOTNOTES:

a. 1 year's service - 5 days' paid vacation; 2 years' service - 10 days' paid vacation; 5 years' service - 12 days' paid vacation; 7 years' service - 14 days' paid vacation; 9 years' service - 16 days' paid vacation; 11 years' service - 18 days' paid vacation; 12 years' service - 20 days' paid

vacation

b. 8 Paid Holidays: New Year's Day; Memorial Day; 4th of July; Labor Day; Thanksgiving Day; Day After Thanksgiving; the normal work day preceding Christmas Day; & Christmas Day

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ELEC0160-002 03/31/2002

	Rates	Fringes
Line Construction		
(1) Lineman; Cable		
Splicer; Dynamiter;		
Special Equipment		
Operator; & Technician.....	\$ 27.51	10.01
(2) Equipment Operator.....	\$ 23.66	8.90
(3) Groundman/Truck		
Driver; & Pole		
Treating Truck Driver.....	\$ 19.26	7.64
LINE CLEARANCE:		
(4) Tree Trimmer;		
Tractor Operator.....	\$ 18.44	7.40
(5) Groundman/Truck		
Driver.....	\$ 12.91	5.81
(6) Groundman.....	\$ 11.99	5.55

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ELEC0242-007 06/01/2002

ST. LOUIS COUNTY (South part bounded on the north by the north line of Kelsey Township extended east & west)

	Rates	Fringes
Electrician.....	\$ 26.14	49.5%

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ELEC0292-006 05/01/2003

ANOKA (Andover, Anoka, Columbia Heights, Coon Rapids, Fridley, Hilltop, Ramsey, Spring Lake Park), BENTON AND SHERBURNE COUNTIES (East of Hwy 25 to Hwy 10 and an imaginary line straight West to the Mississippi River), CARVER, HENNEPIN, SCOTT, AND WRIGHT COUNTIES

	Rates	Fringes
Cable splicer.....	\$ 31.30	52.43%
Electrician.....	\$ 30.30	52.43%

-----  
ELEC0292-010 05/01/2003

BENTON AND SHERBURNE COUNTIES (West of Hwy 25 to Hwy 10 and an imaginary line straight West to the Mississippi River), AND STEARNS COUNTY

	Rates	Fringes
Electricians:		
ELECTRICAL CONTRACTS		
\$500,000 AND OVER:		
Cable Splicer.....	\$ 31.30	52.43%
Electrician.....	\$ 30.30	52.43%
ELECTRICAL CONTRACTS		
UNDER \$500,000:		
Cable Splicer.....	\$ 28.24	40.6%
Electrician.....	\$ 27.24	40.6%

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ELEC0294-008 06/01/2003

ST. LOUIS COUNTY (North part bounded on the south by the south line of Ellsburg Township, extended east & west)

	Rates	Fringes
Cable splicer.....	\$ 26.90	53%
Electrician.....	\$ 26.35	53%

ELEC0343-007 06/01/2002

HOUSTON AND OLMSTED COUNTIES

	Rates	Fringes
Cable splicer.....	\$ 25.72	15%+8.27
Electrician.....	\$ 24.72	15%+8.27

ELEC1426-007 06/01/2002

CLAY &amp; POLK COUNTIES

	Rates	Fringes
Cable splicer.....	\$ 21.60	12%+6.20
Electrician.....	\$ 20.57	12%+6.20

ENGI0049-023 05/01/2003

	Rates	Fringes
Power Equipment Operator (Treatment Plants)		
GROUP 1.....	\$ 30.84	9.35
GROUP 2.....	\$ 30.50	9.35
GROUP 3.....	\$ 29.09	9.35
GROUP 4.....	\$ 28.75	9.35
GROUP 5.....	\$ 28.58	9.35
GROUP 6.....	\$ 27.07	9.35
GROUP 7.....	\$ 25.95	9.35
GROUP 8.....	\$ 23.94	9.35

## POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1 - Helicopter Operator; Truck & Crawler Crane with 200' of Boom & Over, including Jib (\$.50 premium with 300' of Boom & over, including jib); & Tower Crane 250' & Over

GROUP 2 - Truck & Crawler Crane with 150' of Boom, up to but not including 200' of Boom, including Jib; & Tower Crane 200' & Over, Concrete Pump 164 ft Boom.

GROUP 3 - Traveling Tower Crane; Master Mechanic; Pile Driving Operator (when 3 drums are used); Truck & Crawler Crane, up to but not including 150' of Boom, including Jib; Derrick (Guy & Stiffleg); Tower Crane (Stationary) up to 200'; & All Terrain Vehicle Crane, Boom Truck over 100 ft.

GROUP 4 - Crawler Backhoe; Hoist Engineer (3 drums or more); Locomotive Operator; Overhead Crane Operator (inside building perimeter); & Tractor Operator with Boom

GROUP 5 - Air Compressor Operator 450 CFM or Over (2 or more machines); Pump Operator and/or Conveyor Operator (2 or more machines); Mechanic; Pumpcrete or Complaco type Machine Operator; Forklift; Boom Truck up to 100 ft; Concrete Mixer Operator; Drill Rig - Heavy Rotary or Churn when used for Caisson Drilling for Elevator Cylinder or Building Construction; Front End Loader (Over 1 cu. yd.); Hoist Engineer (1 or 2 drums); Straddle Carrier Operator; Power Plant Engineer (100 KW & over on multiples equal to 100KW & over); Tractor Operator over D2; & Well Point Pump Op.

GROUP 6 - Concrete Batch Plant Operator; Guniting Operator; Tractor Operator D2 or similar size; & Front End Loader Operator, up to 1 cu. yd.

GROUP 7 - Air Compressor Operator 600 CFM or Over; Pump and/or Conveyor Operator; Brakeman; Pick-up Sweeper (1 cu. yd. & over Hopper capacity); Truck Crane Oiler; & Welding Machine Operator, Fireman temporary heat.

GROUP 8 - Mechanical Space Heater (Temporary Heat); Oiler or Greaser; & Elevator Operator

\* ENGI0049-024 05/01/2004

Rates	Fringes
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Power Equipment Operator  
(Heavy, Sewer & Water lines)

AREA 1:

Group 1:.....	\$ 27.57	10.35
Group 2:.....	\$ 27.02	10.35
Group 3:.....	\$ 26.84	10.35
Group 4:.....	\$ 26.72	10.35
Group 5:.....	\$ 23.68	10.35
Group 6:.....	\$ 22.47	10.35

AREA 2:

Group 1:.....	\$ 25.11	10.35
Group 2:.....	\$ 24.66	10.35
Group 3:.....	\$ 24.49	10.35
Group 4:.....	\$ 24.36	10.35
Group 5:.....	\$ 21.79	10.35
Group 6:.....	\$ 20.92	10.35

AREA 3:

Group 1:.....	\$ 22.10	10.35
Group 2:.....	\$ 21.17	10.35
Group 3:.....	\$ 20.97	10.35
Group 4:.....	\$ 20.86	10.35
Group 5:.....	\$ 19.15	10.35
Group 6:.....	\$ 18.55	10.35

AREA DESCRIPTIONS

AREA 1 (METRO): ANOKA, CARVER, CHISAGO (South of the Northern boundary of T.34-N & that part consisting substantially of the cities of Thomson, Cloquet, Scanlon & Carlton), DAKOTA, HENNEPIN, RAMSEY, SCOTT, SHERBURNE (South of the northern boundary of T. 33-N & East of the Western boundary of R. 27-W), ST. LOUIS, WASHINGTON & WRIGHT (East of & inclu. Hwy #25) COUNTIES

AREA 2 (EASTERN): BENTON (East of the Western right of way of HWY #10), CHISAGO (Remainder), HOUSTON, ISANTI, OLMSTED, SHERBURNE (Remainder), STEARNS (East of the Western right of way of Hwy #15), and WRIGHT (Remainder) COUNTIES

AREA 3 (WESTERN): BENTON (Remainder) and STEARNS (Remainder) COUNTIES

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1 - Helicopter Pilot; \*Crane with over 135' Boom, excluding Jib; Dragline, Crawler, Hydraulic Backhoe and/or other similar equipment with Shovel-type Controls 3 cu. yds. & over Mfg. rated Cap.; & Pile Driving when 3 Drums are in use

GROUP 2 - Cableway; Concrete Mixer, Stationary Plant over 34E; Derrick (Guy or Stiffleg) (Power) (Skids or Stationary); Diver; Dragline, Crawler, Hydraulic Backhoe and/or similar equipment with Shovel-type Controls, up to 3 cu. yds. Mfg. rated cap.; Dredge or Engineers, Dredge (Power) & Engineer; Front End Loader, 5 cu. yds. & over; Grader or Motor Patrol, Finishing Earthwork & Bituminous; Locomotive Crane; Master Mechanic; Mixer (Paving) Concrete Paving, Road; Mole, including Power Supply; Mucking Machine, including Mucking Operations, Conway or similar type; Piledriving; Refrigeration Plant Engineer; Tandem Scraper; Tractor - Boom type; Truck Crane - Crawler Crane; & Tugboat 100 HP & over

GROUP 3 - Dual Tractor; Elevating Grader; Pumpcrete; Scraper-Struck Cap. 32 cu. yds. & over; & Self-propelled Traveling Soil Stabilizer

GROUP 4 - Air Track Rock Drill; Articulated Hauler Terex, Caterpillar or similar type; Asphalt Bituminous Stabilizer Plant; Automatic Road Machine (CMI or similar); Backfiller;

Bituminous Roller (8 Tons & over); Bituminous Spreader & Finishing (Power); Boom Truck (Power operated Boom); Brokk or R.T.C. 750 Remote Control or Similar types with all attachments; Cat & Scraper; Cat Tractor with Rock Wagons or similar types; Challenger 75-D or 85-D when pulling Scraper or Bulldozer; Chip Harvester & Tree Cutter over 150 HP; Concrete Batch Plant; Concrete Mixer on jobsite over 14S; Concrete Mobile; Crushing Plant (Gravel & Stone) or Gravel Washing, Crushing & Screening Plant; Curb Machine; Directional Boring Machine; Dope Machine (Pipeline); Drill Rigs, Heavy Rotary or Churn or Cable Drill; Fork Lift or Straddle Carrier; Fork Lift or Lumber Stacker; Front End Loader, over 1 cu. yd.; Hoist Engineer (Power); Hydraulic Tree Planter; Launcherman (Tankerman or Pilot License); Lead Greaser; Locomotive; Mechanic; Milling, Grinding & Planing Machine; Morbark Tub Grinder or Similar Type; Multiple Machines, such as Air Compressors, Welding Machines, Generators, Pumps; Pavement Breaker or Tamping Machine (Power Driven) Mighty Mite or similar type; Pickup Sweeper, 1 cu. yd. & over Hopper Cap.; Pipeline Wrapping, Cleaning or Bending Machine; Power Plant Engineer, 100 K.W.H. & over; Power Actuated Horizontal Boring Machine, over 6"; Pugmill; Rubber-tired Farm Tractor, Backhoe Attach.; Scraper, up to 32 cu. yds.; Skid Steer Loader, over 1 cu. yd. with Backhoe Attachment; Slip Form (Power Driven) (Paving); Tie Tamper & Ballast Machine; Tractor, Bulldozer; Tractor Operator, over 50 HP with Power Take-off; Trenching Machine (Sewer, Water, Gas); Well Point Installation; & Dismantling or Repair Mechanic  
 GROUP 5 - Air Compressor, 600 CFM or over; Bituminous Roller (Under 8 tons); Bituminous Rubber-tired Roller; Bituminous Spreader & Bituminous Finishing Machine Tender (Power); Concrete Distributor & Spreader Finishing Machine, Longitudinal Float, Joint Machine, & Spray; Concrete Saw (Multiple Blade) (Power Operated); Form Trench Digger (Power); Front End Loader, up to & incl. 1 cu. yd.; Grader (Motor Patrol); Guniting Gunall; Hydraulic Log Splitter; Loader (Barber Greene or similar type); Payhauler or similar type; Post Hole Driving Machine/Post Hole Auger; Power Actuated Auger & Boring Machine; Power Actuated Jack; Pump; Self-propelled Chip Spreader (Flaherty or similar); Sheep Foot Compactor with Blade - 200 HP & over; Shouldering Machine (Power) Apsco or similar type inclu. self-propelled Sand & Chip Spreader; Stump Chipper & Tree Chipper; Tractor Operator, Bulldozer, 50 HP or less; & Tree Farmer (Machine)  
 GROUP 6 - Challenger 75-D or 85-D when pulling Disk or Roller; Conveyor; Dredge Deck Hand; Fireman or Tank Car Heater; Gravel Screening Plant (Portable not Crushing or Washing); Greaser (Truck or Tractor); Leverman; Mechanic Tender; Mechanic, Space Heater (Temporary Heat); Oiler (Power Shovel, Crane, Dragline); Power Sweeper; Roller on Gravel Compaction; Self-propelled Vibrating Packer (35 HP & over); Sheep Foot Roller; Tractor, Wheel Type (over 50 HP); & Truck Crane Oiler  
 \*CRANE OVER 135' BOOM, EXCLUDING JIB - \$ .25 PREMIUM;  
 CRANE OVER 200' BOOM, EXCLUDING JIB - \$ .50 PREMIUM  
 UNDERGROUND WORK:  
 UNNELS, SHAFTS, ETC. - \$ .25 PREMIUM  
 UNDER AIR PRESSURE - \$ .50 PREMIUM  
 HAZARDOUS WASTE PROJECTS (PPE Required):  
 LEVEL A - \$1.25 PREMIUM

LEVEL B - \$ .90 PREMIUM

LEVEL C - \$ .60 PREMIUM

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IRON0512-013 05/01/2003ANOKA, BENTON, CARVER, CHISAGO, DAKOTA, HENNEPIN, HOUSTON,  
ISANTI, OLMSTED, RAMSEY, SCOTT, SHERBURNE, STEARNS, WASHINGTON  
& WRIGHT COUNTIES

	Rates	Fringes
Ironworker.....	\$ 29.50	11.84

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IRON0563-011 05/01/2003

ST. LOUIS COUNTY

	Rates	Fringes
Ironworker.....	\$ 24.33	13.75

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IRON0793-005 05/01/2002

CLAY &amp; POLK COUNTIES

	Rates	Fringes
Ironworker.....	\$ 19.14	9.73

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LABO0010-006 05/01/2002

	Rates	Fringes
Landscaper (Seeding, Sodding & Planting of evergreen & deciduous shrubs & trees).....	\$ 13.34	5.05

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LABO0132-009 01/01/2000ANOKA, BENTON, CARVER, CHISAGO, CLAY, DAKOTA, HENNEPIN,  
HOUSTON, ISANTI, OLMSTED, RAMSEY, SCOTT, SHERBURNE, STEARNS,  
WASHINGTON & WRIGHT COUNTIES

	Rates	Fringes
Laborer (Asbestos Abatement)...	\$ 19.16	6.62

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LABO0132-013 05/01/2002ANOKA, CARVER, CHISAGO, DAKOTA, HENNEPIN, ISANTI, RAMSEY,  
SCOTT, SHERBURNE, WASHINGTON & WRIGHT COUNTIES

	Rates	Fringes
Laborers: (Treatment Plants)		
GROUP 1.....	\$ 25.73	7.71
GROUP 2.....	\$ 26.23	7.71
GROUP 3.....	\$ 26.73	7.71

LABORERS CLASSIFICATIONS

GROUP 1 - Construction Craft Laborer; Flagperson/Traffic Control; Carpenter Tender; Concrete; Damp Proofer Below Grade; Drill Runner Tender; Dumpman - Dirt, Asphalt, Concrete, Cement; Heater Tender; Hot Tar Caulker - Corker; Joist Handler; Material Handler - Power Buggy; Rebar; Snow Blower Operator; Signal Person; Asbestos and Hazardous Waste Technician; Hydro Blast or Waterblast; Chain Saw Operator; Concrete Saw, Drill Operator; Concrete Vibrator; Demolition & Remodeling, Excluding Demolition of an entire Structural System; Mason Tender; Mortar Mixer - Cement or any other substitute Material or Composition; Pipe Handler; Pneumatic & Electric Tool, Jackhammer, Paving Buster, Chipping Hammer, Tamper Operator, etc.; Swing Stage Line Scaffold (Not including Patent" Scaffolding); Torchman - Gas, Electric, Thermal or similar device; & Remote Control Tamper

GROUP 2 - Caisson Work; Mounted Wall Saw Operator; Nozzle Operator - Guniting, Cement, Sandblasting; Pipelayer; Pipe Rehab Technical, including Cleaning, Cutting, Cameraing,

etc.; Refractory Worker; Sheeting Setter & Driver, Heavy Building Excavation; Underground Work - Open Ditch or Excavation 8' Below Grade; & Underpinning  
GROUP 3 - Driller for Blasting purposes; Dynamite Blaster or substitute products Tovex TR, Water, Gas, Gel, Bristar, Silent Dynamite, etc.

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LABO0132-016 06/01/1999

ANOKA, CARVER, CHISAGO, DAKOTA, HENNEPIN, ISANTI, RAMSEY,  
SCOTT, SHERBURNE, WASHINGTON & WRIGHT COUNTIES

	Rates	Fringes
Plasterer tender (Treatment Plants).....	\$ 23.85	5.59

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LABO0405-003 05/01/1999

HOUSTON & OLMSTED COUNTIES

TREATMENT PLANTS

	Rates	Fringes
Laborers:		
HOUSTON COUNTY		
Group 1.....	\$ 15.49	4.89
Group 2.....	\$ 16.19	4.89
Group 3.....	\$ 13.66	4.89
OLMSTED COUNTY		
Group 1.....	\$ 16.94	4.89
Group 2.....	\$ 17.64	4.89
Group 3.....	\$ 15.06	4.89

LABORER CLASSIFICATIONS

GROUP 1: Construction; General; Carpenter Tender; Concrete; Damp Proofer Below Grade; Dumpman - Dirt, Asphalt, Concrete, Cement; Heater Tender; Hot Tar Caulker - Corker; Firewatch; Joist Handler; Material Handler - Power Buggy; Rebar; Signalperson; Snow Blower Operator; Demolition & Wrecking, Including Remodeling; Chain Saw Operator; Concrete Saw, Drill Operator; Concrete Vibrator; Pipe Handler; Pneumatic & Electric Tool, Jackhammer, Paving Buster, Chipping Hammer, Tamper Operator, etc.; Swing Stage Line Scaffold (not including "Patent" Scaffolding); & Remote Control Tamper  
GROUP 2: Pipe Rehab Technician, including Cleaning, Cutting, Cameraing, etc.; Caisson Work; Nozzle Operator - Gunite, Cement, Sandblasting; Pipelayer; Refractory Worker; Sheeting Setter & Driver, Heavy Building Excavation; Underground Work- Open Ditch or Excavation 8' Below Grade; Underpinning; Mason Tender; Mortar Mixer - Cement or any other substitute Material or Composition; Driller for Blasting Purposes; Dynamite Blaster or substitute products Tovex TR, Water, Gas, Gel, Bristar, Silent Dynamite, etc.  
GROUP 3: Flagperson

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LABO0405-005 05/01/2002

	Rates	Fringes
Laborers: (Heavy, Sewer & Water Lines)		
0 GROUP 1.....	\$ 19.59	5.96
1 GROUP 2.....	\$ 19.79	5.96
2 GROUP 3.....	\$ 19.94	5.96
3 GROUP 4.....	\$ 20.04	5.96
4 GROUP 5.....	\$ 20.29	5.96
5 GROUP 6.....	\$ 21.59	5.96
6		

7 LABORER CLASSIFICATIONS

8  
 9 GROUP 1: Construction; Bituminous Batchperson (Stationary  
 0 Plant); Bituminous Worker - Shoveler, Raker, Floater,  
 1 Squeegee, Utility; Blaster Tender; Brick Tender; Carpenter  
 2 Tender; Cement Coverperson Batch Truck; Cement Handler -  
 3 Bulk, Bag; Concrete Batch person; Concrete Handler,  
 4 Caisson, Footings, Columns, Piling, Slabs, etc.; Concrete  
 5 Longitudinal Float Operator (Manual Bullfloat on Paving);  
 6 Concrete Shoveler, Tamper & Puddler (Paving); Conduit Layer;  
 7 Curb Setter; Damp Proofer Below Grade; Demolition of an  
 8 entire Structural System, Excluding Remodeling; Drill Runner  
 9 Tender; Dump Operator (Dirt, Paver, Dumping Batch Truck,  
 0 etc.); Fabric Installer; Grade Checker; Hydrant & Valve  
 1 Setter; Hydro Blast or Waterblaster; Joint Filler (Concrete  
 2 Pavement); Kettleperson (Bituminous or Lead); Labor Wrecking  
 3 Demolition; Mortar Mixer; Pipe Handler; Power Buggy Operator;  
 4 Pump Operator (Less than 6"); Retaining Wall Installation;  
 5 Sand Cushion Bedmaker; Signal person; Slip Lining of Utility  
 6 Lines; Soil Stabilizer; Sound Barrier & Guard Rail  
 7 Installation; Squeegee person; Stabilizing Batch person  
 8 (Stationary Plant); Temporary Heaters & Blower Tender; Top  
 9 Person (Sewer, Water or Gas Trench); Traffic Controller  
 0 (Traffic Barriers) & Transit/Level; Flagperson. Pipelayer,  
 1 Laser Beam (sewer, water, gas) \$1.50 above Group 1 rate.  
 2 Blasting Person (dynamite or substitute products) \$3.00 above  
 3 Group 1 rate.

4  
 5 GROUP 2: Chain Saw; Compaction Equipment (Hand Operated or  
 6 Remote Control); Concrete Drilling; Concrete Mixer Operator;  
 7 Concrete Sawyer; Concrete Vibrator; Ditch & Other Work more  
 8 than 8' Below starting level of manual work; Formsetter;  
 9 Joint Sawyer, Mortar; Pipe Fuser/Technician; Pneumatic Tools,  
 0 Jackhammer, Paving Buster, Chipping Hammer, etc.; Remote  
 1 Control Demo Machine & Related Accessories  
 2 (Electric/Hydraulic); Stone Tender/Mason Tender; &  
 3 Torchperson - Gas, Electric, Thermal or Similar Device

4  
 5 GROUP 3: Brick or Block Paving Setter; Caisson Work;  
 6 Cofferdam Work

7  
 8 GROUP 4: Bottom person (Sewer, Water or Gas Trench - More  
 9 than 8' Below starting level or manual Work); Cement Gun  
 0 Operator (1 1/2" or Over); Driller - Air Track or Similar; &  
 1 Nozzle Operator (Gunite, Sandblasting, Cement)

2  
 3 GROUP 5: Asbestos & Hazardous Waste Tech; Tunnel Laborer;  
 4 Tunnel Miner; Tunnel Miner Tender; Underground Laborer; &  
 5 Underpinning

6  
 7 GROUP 6: Tunnel Miner Under Pressure

8 -----  
 9 LAB00563-003 05/01/2001

0  
 1 BENTON, CLAY (Except City limits of Moorhead) & STEARNS COUNTIES

2  
 3 TREATMENT PLANTS

4  
 5 Rates Fringes  
 6  
 7 Laborers: (Treatment Plants)  
 8 Projects Over \$950,000:



9	GROUP 1.....	\$ 18.02	6.72
0	GROUP 2.....	\$ 18.77	6.72
1	GROUP 3.....	\$ 19.02	6.72
2	GROUP 4.....	\$ 16.11	6.72
3	Projects Under \$950,000:		
4	GROUP 1.....	\$ 16.27	6.72
5	GROUP 2.....	\$ 17.02	6.72
6	GROUP 3.....	\$ 17.27	6.72
7	GROUP 4.....	\$ 14.54	6.72

8

## 9 LABORER CLASSIFICATIONS

0

1 GROUP 1: Construction; Asbestos & Hazardous Waste  
 2 Technician; Carpenter Tender; Chain Saw Operator; Concrete  
 3 Saw, Drill Operator; Concrete Vibrator; Concrete; Damp  
 4 Proofer Below Grade; Demolition & Remodeling, Excluding  
 5 Demolition of an entire Structural System; Drill Runner  
 6 Tender; Dump Person - Dirt, Asphalt, Concrete, Cement; Heater  
 7 Tender; Hot Tar Caulker- Corker; Hydro Blast or Waterblaster;  
 8 Joist Handler; Mason Tender; Material Handler - Power Buggy;  
 9 Mortar Mixer - Cement or any other Substitute material or  
 0 Composition; Pipe Handler; Pneumatic & Electric Tools,  
 1 Jackhammer, Paving Buster, Chipping Hammer, Tamper Operator,  
 2 etc.; Remote Control Tamper; Signal Person; Snow Blower  
 3 Operator; Swing Stage Line Scaffold (Not including "Patent"  
 4 Scaffolding); Torchperson - Gas, Electric, Thermal or similar  
 5 device

6

7 GROUP 2: Caisson Work; Mounted Wall Saw Operator; Nozzle  
 8 Operator - Guniting, Cement, Sandblasting; Pipelayer; Pipe  
 9 Rehab Technician (Including Cleaning, Cutting, Cameraing,  
 0 etc.); Refractory Worker; Sheetting Setter & Driver, Heavy  
 1 Building Excavation; Underground Work - Open Ditch or  
 2 Excavation 8' Below Grade; & Underpinning

3

4 GROUP 3: Driller for Blasting Purposes; Dynamite Blaster or  
 5 substitute products Tovel TR, Water, Gas, Gel, Bristar,  
 6 Silent Dynamite, etc.

7

8 GROUP 4: Flagperson

9

0 LABO0563-007 05/01/2002

1

2 HEAVY, SEWER &amp; WATER LINES

3

4		Rates	Fringes
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5

6 Laborers:

7

8	AREA 1:		
9	GROUP 1.....	\$ 22.89	6.21
0	GROUP 2.....	\$ 23.09	6.21
1	GROUP 3.....	\$ 23.24	6.21
2	GROUP 4.....	\$ 23.34	6.21
3	GROUP 5.....	\$ 23.59	6.21
4	GROUP 6.....	\$ 24.89	6.21

5

6	AREA 2:		
7	GROUP 1.....	\$ 22.17	5.96
8	GROUP 2.....	\$ 22.37	5.96
9	GROUP 3.....	\$ 22.52	5.96
0	GROUP 4.....	\$ 22.62	5.96
1	GROUP 5.....	\$ 22.87	5.96

0	GROUP 6.....	\$ 24.17	5.96
1	AREA 3:		
2	GROUP 1.....	\$ 21.62	6.51
3	GROUP 2.....	\$ 21.82	6.51
4	GROUP 3.....	\$ 21.97	6.51
5	GROUP 4.....	\$ 18.99	5.86
6	GROUP 5.....	\$ 22.32	6.51
7	GROUP 6.....	\$ 23.62	6.51
8	AREA 4:		
9	GROUP 1.....	\$ 18.54	5.86
0	GROUP 2.....	\$ 18.74	5.86
1	GROUP 3.....	\$ 18.89	5.86
2	GROUP 5.....	\$ 19.24	5.86
3	GROUP 6.....	\$ 20.54	5.86
4	AREA 5:		
5	GROUP 1.....	\$ 19.59	5.96
6	GROUP 2.....	\$ 19.79	5.96
7	GROUP 3.....	\$ 19.94	5.96
8	GROUP 4.....	\$ 20.04	5.96
9	GROUP 5.....	\$ 20.29	5.96
0	GROUP 6.....	\$ 21.59	5.96
1	AREA 6:		
2	GROUP 1.....	\$ 15.74	5.21
3	GROUP 2.....	\$ 15.94	5.21
4	GROUP 3.....	\$ 16.09	5.21
5	GROUP 4.....	\$ 16.19	5.21
6	GROUP 5.....	\$ 16.44	5.21
7	GROUP 6.....	\$ 17.74	5.21
8	AREA 7:		
9	GROUP 1.....	\$ 14.44	5.16
0	GROUP 2.....	\$ 14.64	5.16
1	GROUP 3.....	\$ 14.79	5.16
2	GROUP 4.....	\$ 14.89	5.16
3	GROUP 5.....	\$ 14.03	5.16
4	GROUP 6.....	\$ 15.14	5.16

#### AREA DESCRIPTIONS

AREA 1 (District 1): ANOKA, CARVER, CHISAGO, DAKOTA,  
HENNEPIN, ISANTI, RAMSEY, SCOTT, SHERBURNE, WASHINGTON &  
WRIGHT COUNTIES

AREA 2 (District 2A): ST. LOUIS COUNTY (South of T. 55 N):

AREA 3 (District 2B): ST. LOUIS COUNTY (North of T. 55 N)

AREA 4 (District 3A): BENNTON & STEARNS COUNTIES

AREA 5 (District 3B): HOUSTON & OLMSTED COUNTIES

AREA 6 (District 4): CLAY (Excluding City Limits of  
Moorhead) & POLK (Excluding City Limits of East Grand Forks)  
COUNTIES

AREA 7 (ND DC): CLAY (City Limits of Moorhead) and POLK  
(City Limits of East Grand Forks) COUNTIES

#### LABORER CLASSIFICATIONS

GROUP 1: Construction; Bituminous Batchersperson (Stationary  
Plant); Bituminous Worker - Shoveler, Raker, Floater,

1 Squeegee, Utility; Blaster Tender; Brick Tender; Carpenter  
 2 Tender; Cement Coverperson Batch Truck; Cement Handler -  
 3 Bulk, Bag; Concrete Batch person; Concrete Handler,  
 4 Caisson, Footings, Columns, Piling, Slabs, etc.; Concrete  
 5 Longitudinal Float Operator (Manual Bullfloat on Paving);  
 6 Concrete Shoveler, Tamper & Puddler (Paving); Conduit Layer;  
 7 Curb Setter; Damp Proofer Below Grade; Demolition of an  
 8 entire Structural System, Excluding Remodeling; Drill Runner  
 9 Tender; Dump Operator (Dirt, Paver, Dumping Batch Truck,  
 0 etc.); Fabric Installer; Grade Checker; Hydrant & Valve  
 1 Setter; Hydro Blast or Waterblaster; Joint Filler (Concrete  
 2 Pavement); Kettleperson (Bituminous or Lead); Labor Wrecking  
 3 Demolition; Mortar Mixer; Pipe Handler; Power Buggy Operator;  
 4 Pump Operator (Less than 6"); Retaining Wall Installation;  
 5 Sand Cushion Bedmaker; Signal person; Slip Lining of Utility  
 6 Lines; Soil Stabilizer; Sound Barrier & Guard Rail  
 7 Installation; Squeegee person; Stabilizing Batch person  
 8 (Stationary Plant); Temporary Heaters & Blower Tender; Top  
 9 Person (Sewer, Water or Gas Trench); Traffic Controller  
 0 (Traffic Barriers) & Transit/Level; Flagperson. Pipelayer,  
 1 Laser Beam (sewer, water, gas) \$1.50 above Group 1 rate.  
 2 Blasting Person (dynamite or substitute products) \$3.00 above  
 3 Group 1 rate.  
 4

5 GROUP 2: Chain Saw; Compaction Equipment (Hand Operated or  
 6 Remote Control); Concrete Drilling; Concrete Mixer Operator;  
 7 Concrete Sawyer; Concrete Vibrator; Ditch & Other Work more  
 8 than 8' Below starting level of manual work; Formsetter;  
 9 Joint Sawyer, Mortar; Pipe Fuser/Technician; Pneumatic Tools,  
 0 Jackhammer, Paving Buster, Chipping Hammer, etc.; Remote  
 1 Control Demo Machine & Related Accessories  
 2 (Electric/Hydraulic); Stone Tender/Mason Tender; &  
 3 Torchperson - Gas, Electric, Thermal or Similar Device  
 4

5 GROUP 3: Brick or Block Paving Setter; Caisson Work;  
 6 Cofferdam Work  
 7

8 GROUP 4: Bottom person (Sewer, Water or Gas Trench - More  
 9 than 8' Below starting level or manual Work); Cement Gun  
 0 Operator (1 1/2" or Over); Driller - Air Track or Similar; &  
 1 Nozzle Operator (Gunite, Sandblasting, Cement)  
 2

3 GROUP 5: Asbestos & Hazardous Waste Tech; Tunnel Laborer;  
 4 Tunnel Miner; Tunnel Miner Tender; Underground Laborer; &  
 5 Underpinning  
 6

7 GROUP 6: Tunnel Miner Under Pressure  
 8 -----

9 LAB00580-002 04/19/1999  
 0

1 CLAY (Moorhead) & POLK (East Grand Forks) COUNTIES  
 2

	Rates	Fringes
3		
4		
5	Laborer (Treatment Plants)	
6	Common Laborer;	
7	Concrete Bucket; Power	
8	Tool Operator; Mortar	
9	Mixer; Brick &	
0	Plasterers' Tender;	
1	Jackhammer Work; Hod	

2 Carrier; Non-Metallic  
 3 Pipe Layer; Gas Line  
 4 Wrapping or Taping;  
 5 Cutting Torch for  
 6 Demolition; Sandblaster  
 7 & Gunnite Pot Tender; &  
 8 Hose Tender.....\$ 14.05 4.34

0 -----  
 1 LAB01091-002 05/01/1998

2  
 3 ST. LOUIS COUNTY (South of T 55 N)

	Rates	Fringes
7 Laborers: (Treatment Plants)		
8 GROUP 1.....\$ 15.95		5.39
9 GROUP 2.....\$ 16.10		5.39
0 GROUP 3.....\$ 16.35		5.39
1 GROUP 4.....\$ 16.65		5.39
2 GROUP 5.....\$ 14.05		5.39

3  
 4 LABORER CLASSIFICATIONS

5  
 6 GROUP 1: General; Carpenter Tender; Concrete Laborer; Damp  
 7 Proofer Below Grade; Drill Runner Tender; Dumpman - Dirt,  
 8 Asphalt, Concrete, Cement; Heater Tender; Hot Tar Caulker -  
 9 Corker; Joist Handler; Rebar; Snow Blower Operator;  
 0 Signalperson; Material Handler (All types Power Buggy); Fire  
 1 Control; Asbestos Removal; & Hazardous Waste

2  
 3 GROUP 2: Chain Saw Operator; Concrete Saw, Drill Operator;  
 4 Concrete Vibrator; Demolition & Wrecking, Excluding  
 5 Remodeling; Gunite, Sandblasting Machine Operator; Mason  
 6 Tender; Mortar Mixer - Cement or any other substitute  
 7 material or composition; Pipe Handler; Pneumatic & Electric  
 8 Tools, Jackhammer, Paving Buster, Chipping Hammer, Tamper  
 9 Operator, etc.; Swing Stage Line Scaffold (not including  
 0 "patent" scaffolding); Torchman - Gas, Electric, Thermal or  
 1 similar device; & Hydroblast

2  
 3 GROUP 3: Caisson Work; Nozzle Operator - Gunite, Cement,  
 4 Sandblasting; Pipelayer; Refractory Worker; Sheeting Setter &  
 5 Driver, Heavy Building Excavation; Underground Work - Open  
 6 Ditch or Excavation 8' Below Grade; Underpinning; & Hod  
 7 Carrier

8  
 9 GROUP 4: Driller for Blasting Purposes; Dynamite Blasters or  
 0 substitute products Tovex TR, Water, Gas, Gel, Bristar,  
 1 Silent Dynamite, etc.; Asbestos Abatement Worker; & Hazardous  
 2 Waste Worker

3  
 4 GROUP 5: Flagperson

5 -----  
 6 LAB01091-004 05/01/2002

7  
 8 ST. LOUIS COUNTY (South of TR 55)

	Rates	Fringes
2 Laborer (Asbestos Abatement)...\$ 20.80		7.41

LABO1091-005 05/01/2002

ST. LOUIS COUNTY (South of T. 55 N)

	Rates	Fringes
Laborers: (Heavy, Sewer & Water Lines)		
GROUP 1.....	\$ 22.17	5.96
GROUP 2.....	\$ 22.37	5.96
GROUP 3.....	\$ 22.52	5.96
GROUP 4.....	\$ 22.62	5.96
GROUP 5.....	\$ 22.87	5.96
GROUP 6.....	\$ 24.17	5.96

#### LABORER CLASSIFICATIONS

GROUP 1: Construction; Bituminous Batchperson (Stationary Plant); Bituminous Worker - Shoveler, Raker, Floater, Squeegee, Utility; Blaster Tender; Brick Tender; Carpenter Tender; Cement Coverperson Batch Truck; Cement Handler - Bulk, Bag; Concrete Batch person; Concrete Handler, Caisson, Footings, Columns, Piling, Slabs, etc.; Concrete Longitudinal Float Operator (Manual Bullfloat on Paving); Concrete Shoveler, Tamper & Puddler (Paving); Conduit Layer; Curb Setter; Damp Proofer Below Grade; Demolition of an entire Structural System, Excluding Remodeling; Drill Runner Tender; Dump Operator (Dirt, Paver, Dumping Batch Truck, etc.); Fabric Installer; Grade Checker; Hydrant & Valve Setter; Hydro Blast or Waterblaster; Joint Filler (Concrete Pavement); Kettleperson (Bituminous or Lead); Labor Wrecking Demolition; Mortar Mixer; Pipe Handler; Power Buggy Operator; Pump Operator (Less than 6"); Retaining Wall Installation; Sand Cushion Bedmaker; Signal person; Slip Lining of Utility Lines; Soil Stabilizer; Sound Barrier & Guard Rail Installation; Squeegee person; Stabilizing Batch person (Stationary Plant); Temporary Heaters & Blower Tender; Top Person (Sewer, Water or Gas Trench); Traffic Controller (Traffic Barriers) & Transit/Level; Flagperson. Pipelayer, Laser Beam (sewer, water, gas) \$1.50 above Group 1 rate. Blasting Person (dynamite or substitute products) \$3.00 above Group 1 rate.

GROUP 2: Chain Saw; Compaction Equipment (Hand Operated or Remote Control); Concrete Drilling; Concrete Mixer Operator; Concrete Sawyer; Concrete Vibrator; Ditch & Other Work more than 8' Below starting level of manual work; Formsetter; Joint Sawyer, Mortar; Pipe Fuser/Technician; Pneumatic Tools, Jackhammer, Paving Buster, Chipping Hammer, etc.; Remote Control Demo Machine & Related Accessories (Electric/Hydraulic); Stone Tender/Mason Tender; & Torchperson - Gas, Electric, Thermal or Similar Device

GROUP 3: Brick or Block Paving Setter; Caisson Work; Cofferdam Work

GROUP 4: Bottom person (Sewer, Water or Gas Trench - More than 8' Below starting level or manual Work); Cement Gun Operator (1 1/2" or Over); Driller - Air Track or Similar; &

4 Nozzle Operator (Gunite, Sandblasting, Cement)  
5  
6 GROUP 5: Asbestos & Hazardous Waste Tech; Tunnel Laborer;  
7 unnel Miner; Tunnel Miner Tender; Underground Laborer; &  
8 Underpinning  
9  
0 GROUP 6: Tunnel Miner Under Pressure  
1 -----  
2 LABO1097-002 05/01/2001  
3  
4 POLK COUNTY (Excluding the city limits of East Grand Forks):  
5  
6 Rates Fringes  
7  
8 Laborers: (Treatment Plants)  
9 Projects \$760,000 &  
0 over, including  
1 Mechanical & Electrical:  
2 GROUP 1.....\$ 15.68 5.06  
3 GROUP 2.....\$ 16.08 5.06  
4 GROUP 3.....\$ 16.28 5.06  
5 GROUP 4.....\$ 13.98 5.06  
6 Projects under \$760,000  
7 including Mechanical &  
8 Electrical:  
9 GROUP 1.....\$ 13.48 5.06  
0 GROUP 2.....\$ 13.67 5.06  
1 GROUP 3.....\$ 13.84 5.06  
2 GROUP 4.....\$ 11.88 5.06  
3  
4 LABORER CLASSIFICATIONS  
5  
6 GROUP 1: Construction; Carpenter Tender; Concrete; Damp  
7 Proofer Below Grade; Dump Person - Dirt, Asphalt, Concrete &  
8 Cement; Heater Tender; Hot Tar Caulker - Corker; Joist  
9 Handler; Material Handler - Power Buggy; Rebar; Signal  
0 Person; Snow Blower; Chain Saw; Concrete Vibrator; Demolition  
1 & Wrecking, Excluding Remodeling; Mason Tender; Mortar Mixer  
2 - Cement or Any Other Substitute Material or Composition;  
3 Pipe Handler; Pneumatic & Electric Tool, Jackhammer,  
4 Paving Buster, Chipping Hammer, Tamper Operator, etc.; Swing  
5 Stage Line Scaffold (Not including "Patent" Scaffolding);  
6 & Torch Person - Gas, Electric, Thermal or similar device;  
7 Scrapping, Sweeping & Clean-up; Skid Steer, Forklift  
8 (Incidental Use)  
9  
0 GROUP 2: Creosote Handler; Caisson Work; Concrete Saw Drill;  
1 Nozzle Operator - Gunite, Cement, Sandblasting; Pipelayer;  
2 Sheeting Setter & Driver, Heavy Building Excavation;  
3 Underground Work - Open Ditch or Excavation 8' Below Grade;  
4 Underpinning; & High Pay/Low Pay - 40 ft. over or Under  
5 Ground Floor without Conventional Floor Areas; Pipe- Rehab  
6 Technician, including Cleaning, Cutting, Camering, etc.;  
7 Wall Mounted Saw Operator  
8  
9 GROUP 3: Driller for Blasting Purposes; Dynamite Blaster or  
0 substitute products; & Tovex TR, Water, Gas, Gel, Bristar,  
1 Silent Dynamite, etc.  
2  
3 GROUP 4: Flagperson  
4 -----

5 LABO1097-004 05/01/2001

6

7 ST. LOUIS COUNTY (North of T 55 N)

8

9 Rates Fringes

0

1 Laborers: (Treatment Plants)

2 GROUP 1.....\$ 19.67 5.81

3 GROUP 2.....\$ 20.07 5.81

4 GROUP 3.....\$ 20.37 5.81

5 GROUP 4.....\$ 17.77 5.81

6 GROUP 5.....\$ 21.67 5.81

7

8 LABORERS CLASSIFICATIONS

9

0 GROUP 1 - Construction; Carpenter Tender; Concrete; Damp  
1 Proofer Below Grade; Dump Person - Dirt, Asphalt, Concrete &  
2 Cement; Heater Tender; Hot Tar Caulker - Corker; Joist  
3 Handler; Material Handler - Power Buggy; Rebar; Signal  
4 Person; & Snow Blower Operator; Chain Saw Operator; Concrete  
5 Vibrator; Demolition & Wrecking, Excluding Remodeling; Mason  
6 Tender; Mortar Mixer - Cement or Any Other Substitute  
7 Material or Composition; Pipe Handler; Pneumatic & Electric  
8 Tool, Jackhammer, Paving Buster, Chipping Hammer, Tamper  
9 Operator, etc.; Swing Stage Line Scaffold (Not including  
0 "Patent" Scaffolding); & Torch Person - Gas, Electric,  
1 Thermal or similar device; Scrapping, Sweeping & Clean-up;  
2 Skid Steer, Forklift (Incidental Use)

3

4 GROUP 2 - Creosote Handler; Caisson Work; Concrete Saw  
5 Drillr; Nozzle Operator - Gunite, Cement, Sandblasting;  
6 Pipelayer; Sheeting Setter & Driver, Heavy Building  
7 Excavation; Underground Work - Open Ditch or Excavation 8'  
8 Below Grade; Underpinning; & High Pay/Low Pay - 40 ft. Over  
9 or Under Ground Floor without Conventional Floor Areas;  
0 Pipe-Rehab Technician, including Cleaning, Cutting, Camering,  
1 etc.; Wall Mounted Saw Operator

2

3 GROUP 3 - Driller for Blasting Purposes; Dynamite Blaster or  
4 substitute products; & Tovex TR, Water, Gas, Gel, Bristar,  
5 Silent Dynamite, etc.

6

7 GROUP 4: Flagperson

8

9 GROUP 5: Refractory worker

0

1 LABO1097-007 05/01/2002

2

3 POLK COUNTY (Excluding the city limits of East Grand Forks); &  
4 ST. LOUIS COUNTY (N. of TR 55, but excluding a 20-mile radius  
5 of Grand Forks, North Dakota)

6

7 Rates Fringes

8

9 Laborer (Asbestos Abatement)...\$ 20.80 7.41

0

1

2 PAIN0061-006 05/01/2002

3

4 CHISAGO, DAKOTA, RAMSEY & WASHINGTON COUNTIES

5

	Rates	Fringes
Painters:		
GROUP 1.....	\$ 26.25	9.38
GROUP 2.....	\$ 26.25	9.28
GROUP 3.....	\$ 19.69	9.28
GROUP 4.....	\$ 27.00	9.38

#### PAINTER CLASSIFICATIONS

GROUP 1: Brush; Paperhanger

GROUP 2: Drywall Finisher

GROUP 3:- Drywall Sander

GROUP 4: Sandblaster; Spray; Swing Stage; Boatswain Chair;  
Window Jack; Safety Belt; Erected Structural Steel; Bridges;  
& Application of Epoxy Materials & Materials containing over  
50% Creosote

-----  
PAIN0106-009 05/01/2001

ST LOUIS COUNTY

	Rates	Fringes
Glazier.....	\$ 20.11	7.24+a

#### FOOTNOTE:

a. 1 to 4 years' service - 1 week's paid vacation; 5 to 11  
years' service - 2 weeks' paid vacation; 11 years' service or  
more - 3 weeks' paid vacation

-----  
PAIN0106-010 05/01/2001

ST. LOUIS COUNTY

	Rates	Fringes
Painters:		
New:		
Brush, Roller.....	\$ 22.73	7.73
Paperhanger, Spray,		
Steel, Taper.....	\$ 23.33	7.73
REPAINT:		
Brush, Roller.....	\$ 21.23	7.73
Paperhanger, Spray,		
Steel, Taper.....	\$ 21.83	7.73

-----  
PAIN0386-009 05/01/2002

ANOKA, CARVER, HENNEPIN, ISANTI, SCOTT, SHERBURNE (South & East  
of a line drawn between the town of Santiago in Sherburne  
County and the town of Clearwater in Wright County) & WRIGHT  
COUNTIES

	Rates	Fringes
--	-------	---------



7	Painters:		
8	Brush; Roller; &		
9	Paperhanger.....	\$ 25.50	10.13
0	Spray; Steel;		
1	Sandblaster; Swing		
2	Stage & Epoxy.....	\$ 26.25	10.13
3			
4	-----		
5	PAIN0386-010 05/01/2002		
6			
7	ANOKA, CARVER, HENNEPIN, ISANTI, SCOTT, SHERBURNE (South & east		
8	of a line drawn between the town of Santiago, Sherburne County		
9	and the town of Clearwater, Wright County) & WRIGHT COUNTIES		
0			
1		Rates	Fringes
2			
3	Drywall		
4	Finisher.....	\$ 24.93	10.60
5	Sander.....	\$ 18.70	10.60
6			
7	-----		
8	* PAIN0681-005 05/01/2004		
9			
0	HOUSTON AND OLMSTED COUNTIES		
1			
2		Rates	Fringes
3			
4	Painter (Under \$600,000 in		
5	volume including Electrical		
6	& Mechanical; excluding		
7	corporate city limits of		
8	Rochester)		
9	Brush & Roller.....	\$ 21.07	7.16
0			
1	Painter		
2	Paperhanger & Steel.....	\$ 21.28	7.16
3	Sandblasting & Spray.....	\$ 21.45	7.16
4	Stageman & Beltman.....	\$ 21.92	7.16
5			
6	Painters: (\$600,000 & over		
7	in volume including		
8	Electrical & Mechanical;		
9	and all work within		
0	corporate city limits of		
1	Rochester)		
2	Brush & Roller.....	\$ 23.73	6.89
3	Paperhanger & Steel.....	\$ 23.98	6.89
4	Sandblasting & Spray.....	\$ 24.23	6.89
5	Stageman & Beltman.....	\$ 24.73	6.89
6			
7	Painters: (\$600,000 & over		
8	in volume including		
9	Electrical & Mechanical;		
0	and all work within		
1	corporate city limits or		
2	rochester)		
3	Brush & Roller.....	\$ 24.79	7.16
4			
5	Painters:		
6	Paperhanger & Steel.....	\$ 25.04	7.16
7	Sandblasting & Spray.....	\$ 25.29	7.16

8 Stageman & Beltman.....\$ 25.79 7.16

9

0 APPLICATION OF EPOXY, CREOSOTE OR ALL OTHER HIGHLY TOXIC

1 MATERIALS - \$ .25 PREMIUM

2 -----

3 \* PAIN0681-008 05/01/2004

4

5 HOUSTON & OLMSTED COUNTIES

6

7 Rates Fringes

8

9 Drywall

0 Finisher.....\$ 23.68 8.68

1 Sander.....\$ 17.76 8.68

2

3 -----

4 PAIN0880-001 05/01/2002

5

6 Rates Fringes

7

8 Sign Painter.....\$ 21.12 2.07+a+b

9

0 FOOTNOTES:

1

2 a. 8 Paid Holidays: New Year's Day; Memorial Day;  
3 Independence Day; Labor Day; Thanksgiving Day; the Day After  
4 Thanksgiving; the last working Day Before Christmas; &  
5 Christmas Day

6

7 b. Vacation Pay: 3 years service - 2 weeks paid vacation; 6  
8 years service - 3 weeks paid vacation; 15 years service - 4  
9 weeks paid vacation

0 -----

1 PAIN0884-006 06/01/2003

2

3 Rates Fringes

4

5 Painter

6 AREA 1:

7 GROUP 2.....\$ 16.81 7.61

8 GROUP 3.....\$ 17.41 7.61

9 AREA 2:

0 GROUP 1.....\$ 14.41 1.87

1 GROUP 2.....\$ 16.00 6.89

2 GROUP 3.....\$ 15.16 1.87

3

4 Painter (Projects under  
5 \$8,000)

6 AREA 1:

7 GROUP 1.....\$ 16.81 7.61

8

9 Painter (Projects Under  
0 \$8,000).....

1

2 Painters: (Projects \$8,000  
3 and over)

4 AREA 1:

5 GROUP 1.....\$ 21.01 7.61

6

7 Painters:

8 AREA 1:

9       GROUP 2.....\$ 21.01           7.61  
 0       GROUP 3.....\$ 21.76           7.61  
 1       AREA 2:  
 2       GROUP 1.....\$ 18.01           1.87  
 3       GROUP 2.....\$ 20.01           6.89  
 4       GROUP 3.....\$ 18.76           1.87  
 5  
 6       AREA 1: BENTON, SHERBURNE (Western one-half, North & West of  
 7       a line drawn between the city of Santiago in Sherburne  
 8       County & the city of Clearwater in Wright County) & STEARNS  
 9       COUNTIES  
 0  
 1       AREA 2: CLAY & POLK COUNTIES  
 2  
 3       PAINTER CLASSIFICATIONS  
 4  
 5       GROUP 1: Brush & Roller  
 6  
 7       GROUP 2: Drywall Taper & Finisher  
 8  
 9       GROUP 3: Spray; Two Component Paints; Epoxies; Sandblasting  
 0       & Rigging; Bridge Painting; Work done on Swing Scaffolding,  
 1       Safety Harness, Boatswain's Chair, Coverings & Erection of  
 2       Scaffolding for same, Work on Erected Structural Steel,  
 3       Storage Bins, Tanks, Abrasive Blasting; Steeple Jack Work  
 4       which applies to Smokestacks, Elevated Tanks & Erected  
 5       Towers over 35 ft., Flag Poles; & Structural Supports  
 6       -----  
 7       PAIN1324-005 06/01/2002  
 8  
 9       ANOKA, BENTON, CARVER, CHISAGO, CLAY, DAKOTA, HENNEPIN,  
 0       HOUSTON, ISANTI, OLMSTED, POLK, RAMSEY, SCOTT, SHERBURNE,  
 1       STEARNS, WASHINGTON & WRIGHT COUNTIES  
 2  
 3                                       Rates           Fringes  
 4  
 5       Glazier.....\$ 27.36           10.14  
 6  
 7       -----  
 8       PLAS0265-004 06/01/2000  
 9  
 0       ANOKA, CARVER, CHISAGO, DAKOTA, HENNEPIN, ISANTI, RAMSEY,  
 1       SCOTT, SHERBURNE, WASHINGTON & WRIGHT COUNTIES  
 2  
 3                                       Rates           Fringes  
 4  
 5       Plasterer.....\$ 24.88           8.35  
 6  
 7       -----  
 8       PLAS0633-033 05/01/2002  
 9  
 0       ST. LOUIS COUNTY (South of T 55N)  
 1  
 2                                       Rates           Fringes  
 3  
 4       Cement Mason (Treatment  
 5       Plants).....\$ 22.79           9.30  
 6  
 7       -----  
 8       PLAS0633-034 05/01/2002  
 9

## 0 HOUSTON &amp; OLMSTED COUNTIES

1

2 Rates

Fringes

3

4 Cement Mason (Treatment

5 Plants).....\$ 26.51 3.80

6

7 -----

8 PLAS0633-035 05/01/2002

9

0 ANOKA, CARVER, CHISAGO, DAKOTA, HENNEPIN, ISANTI, RAMSEY,

1 SCOTT, SHERBURNE, WASHINGTON &amp; WRIGHT COUNTIES

2

3 Rates

Fringes

4

5 Cement Mason (Treatment

6 Plants).....\$ 27.34 9.31

7

8 -----

9 PLAS0633-036 05/01/2002

0

1 ST. LOUIS COUNTY (North of T 55N)

2

3 Rates

Fringes

4

5 Cement Mason (Treatment

6 Plants).....\$ 21.59 8.21

7

8 -----

9 PLAS0633-037 05/01/2002

0

1 ST. LOUIS COUNTY

2

3 Rates

Fringes

4

5 Plasterer.....\$ 23.27

9.30

6

7 -----

8 PLAS0633-038 06/01/2002

9

0 HOUSTON &amp; OLMSTED COUNTIES

1

2 Rates

Fringes

3

4 Plasterer.....\$ 26.85

3.35

5

6 -----

7 PLAS0633-039 05/01/2002

8

9 ST. LOUIS COUNTY (South of T 55N)

0

1 Rates

Fringes

2

3 Cement Mason (Heavy, Sewer

4 &amp; Water Lines).....\$ 24.93 9.30

5

6 -----

7 PLAS0633-040 05/01/2000

8

9 ANOKA, CARVER, CHISAGO, DAKOTA, HENNEPIN, ISANTI, RAMSEY,

0 SCOTT, SHERBURNE, WASHINGTON &amp; WRIGHT COUNTIES

1			
2		Rates	Fringes
3			
4	Cement Mason (Heavy, Sewer		
5	& Water Lines).....	\$ 26.14	9.31
6			
7	-----		
8	PLAS0633-041 05/01/2002		
9			
0	ST. LOUIS COUNTY (North of T 55N)		
1			
2		Rates	Fringes
3			
4	Cement Mason (Heavy, Sewer		
5	& Water Lines).....	\$ 21.59	8.21
6			
7	-----		
8	PLAS0633-042 05/01/2002		
9			
0	HOUSTON & OLMSTED COUNTIES		
1			
2		Rates	Fringes
3			
4	Cement Mason (Heavy, Sewer		
5	& Water Lines).....	\$ 26.51	3.80
6			
7	-----		
8	PLAS0633-044 05/01/2002		
9			
0	POLK COUNTY		
1			
2		Rates	Fringes
3			
4	Cement Mason (Treatment		
5	Plants).....	\$ 20.79	6.96
6			
7	-----		
8	PLAS0633-045 05/01/2002		
9			
0	BENTON, CLAY & POLK COUNTIES		
1			
2		Rates	Fringes
3			
4	Plasterer.....	\$ 19.59	5.91
5			
6	-----		
7	PLUM0006-005 08/01/2003		
8			
9	HOUSTON AND OLMSTED COUNTIES		
0			
1		Rates	Fringes
2			
3	Plumber, Pipefitter,		
4	Steamfitter.....	\$ 30.86	10.30
5			
6	-----		
7	PLUM0011-007 05/01/2003		
8			
9	ST. LOUIS COUNTY (South of an east-west line drawn through		
0	Cotton)		
1			

	Rates	Fringes
Plumber, Pipefitter, Steamfitter.....	\$ 28.45	10.55
-----		
PLUM0015-005 05/01/2003		
ANOKA, CARVER, HENNEPIN, ISANTI, SCOTT, SHERBURNE (East of a line running northeasterly from the point of Wright County that lies furthest north to that point of Mille Lacs County that is south by west) & WRIGHT COUNTIES		
	Rates	Fringes
Plumber.....	\$ 31.27	11.86+a
FOOTNOTE:		
a. Paid Holiday: Labor Day		
-----		
PLUM0015-006 05/01/2003		
BENTON & STEARNS COUNTIES		
	Rates	Fringes
Plumber.....	\$ 27.77	12.04+a
FOOTNOTE:		
a. Paid Holiday: Labor Day		
-----		
PLUM0034-005 05/01/2003		
CHISAGO, DAKOTA, RAMSEY & WASHINGTON COUNTIES		
	Rates	Fringes
Plumber.....	\$ 30.93	21.21+a
FOOTNOTE:		
a. Paid Holiday: Labor Day		
-----		
PLUM0126-005 05/15/2002		
CLAY & POLK COUNTIES		
	Rates	Fringes
Plumber and Steamfitter Mechanical Projects \$2,000,000 and above.....	\$ 28.29	8.31
Mechanical Projects under \$2,000,000.....	\$ 25.89	8.31
-----		
PLUM0417-002 01/01/2003		
ANOKA, DAKOTA, HENNEPIN, RAMSEY, SCOTT & WASHINGTON COUNTIES		
	Rates	Fringes

3 Sprinkler Fitter.....\$ 30.97 11.81+a  
4

5 FOOTNOTE:

6 a. 6 Paid Holidays: Memorial Day; July 4th; Friday before  
7 Labor Day; Labor Day; Columbus Day; & Thanksgiving Day

8 -----  
9 PLUM0455-006 05/01/2002  
0

1 CHISAGO, DAKOTA, RAMSEY & WASHINGTON COUNTIES  
2

	Rates	Fringes
3		
4		
5	Plumber and Steamfitter.....\$ 31.22	10.64
6		

7 -----  
8 PLUM0539-006 05/01/2002  
9

0 ANOKA, CARVER, HENNEPIN, ISANTI, SCOTT, SHERBURNE (East of a  
1 line running North-Easterly from the point of Wright Co.that  
2 lies furthest North to that point of Mille Lacs that is South  
3 by West) & WRIGHT COUNTIES  
4

	Rates	Fringes
5		
6		
7	Pipefitter.....\$ 31.30	10.70
8		

9 -----  
0 PLUM0539-010 05/01/2002  
1

2 BENTON, SHERBURNE (West of a line running North-Easterly from  
3 point of Wright Co. lies furthest North to point of Mille Lacs  
4 that is South by West) & STEARNS COUNTIES  
5

	Rates	Fringes
6		
7		
8	Pipefitter.....\$ 24.71	13.03
9		

0 -----  
1 PLUM0589-005 06/01/2002  
2

3 ST. LOUIS COUNTY (North of an East-West line drawn through  
4 Cotton)  
5

	Rates	Fringes
6		
7		
8	Plumber, Pipefitter,	
9	Steamfitter.....\$ 24.56	12.13
0		

1 -----  
2 ROOF0096-016 06/01/2002  
3

	Rates	Fringes
4		
5		
6	Roofers:	
7	Houston County.....\$ 18.93	5.30
8	Olmsted County.....\$ 19.86	5.30
9		

0 -----  
1 ROOF0096-017 07/01/2003  
2

3 ST. LOUIS COUNTY (South of Hwy 16, excluding city of Forbes)

4			
5		Rates	Fringes
6			
7	Roofer.....	\$ 24.70	9.15
8			
9	-----		
0	ROOF0096-018 05/01/2003		
1			
2	ANOKA, CARVER, CHISAGO, DAKOTA, HENNEPIN, ISANTI (South of		
3	State Highway #95, including Cambridge), RAMSEY, SCOTT,		
4	WASHINGTON & WRIGHT (South of County Road #39) COUNTIES		
5			
6		Rates	Fringes
7			
8	Roofer.....	\$ 28.19	9.75+a
9			
0	FOOTNOTE:		
1	a. 1 Paid Holiday: Labor Day		
2	-----		
3	ROOF0096-019 09/30/2002		
4			
5	BENTON, ISANTI (North of State Highway #95, excluding		
6	Cambridge), SHERBURNE, STEARNS & WRIGHT (North of Wright		
7	County Road #39, from South Haven to Monticello, including		
8	both towns) COUNTIES		
9			
0		Rates	Fringes
1			
2	Roofer.....	\$ 23.70	6.70
3			
4	-----		
5	ROOF0096-020 09/30/2002		
6			
7	ST. LOUIS COUNTY (Northern two-thirds)		
8			
9		Rates	Fringes
0			
1	Roofer.....	\$ 20.40	5.70
2			
3	-----		
4	ROOF0214-002 04/01/1998		
5			
6	CALY & POLK		
7			
8		Rates	Fringes
9			
0	Roofer.....	\$ 10.83	
1			
2	-----		
3	* SFMN0669-004 04/01/2004		
4			
5	BENTON, CARVER, CHISAGO, CLAY, HOUSTON, ISANTI, OLMSTED, POLK,		
6	SHERBURNE, ST. LOUIS, STEARNS & WRIGHT COUNTIES		
7			
8		Rates	Fringes
9			
0	Sprinkler Fitter.....	\$ 30.31	8.15
1			
2	-----		
3	SHEE0010-021 05/01/2003		
4			



5	BENTON, SHERBURNE & STEARNS COUNTIES		
6			
7		Rates	Fringes
8			
9	Sheet Metal Worker.....	\$ 27.32	11.28
0			
1	-----		
2	SHEE0010-022 06/01/2003		
3			
4	HE25		
5			
6	POLK COUNTY		
7			
8		Rates	Fringes
9			
0	Sheet Metal Worker.....	\$ 19.51	8.32
1			
2	-----		
3	SHEE0010-023 05/01/2003		
4			
5	ST. LOUIS COUNTY (Southern one-third)		
6			
7		Rates	Fringes
8			
9	Sheet Metal Worker.....	\$ 26.45	12.60
0			
1	-----		
2	SHEE0010-024 05/01/2003		
3			
4	ST. LOUIS COUNTY (Northern two-thirds)		
5			
6		Rates	Fringes
7			
8	Sheet Metal Worker.....	\$ 25.41	12.01
9			
0	-----		
1	SHEE0010-025 05/01/2003		
2			
3	ANOKA, CARVER, CHISAGO, DAKOTA, HENNEPIN, ISANTI, RAMSEY,		
4	SCOTT, WASHINGTON & WRIGHT COUNTIES		
5			
6		Rates	Fringes
7			
8	Sheet Metal Worker.....	\$ 31.15	12.42+a
9			
0	FOOTNOTE:		
1	a. Paid Holiday: Labor Day		
2	-----		
3	SHEE0010-026 05/01/2003		
4			
5	OLMSTED COUNTY		
6			
7		Rates	Fringes
8			
9	Sheet Metal Worker.....	\$ 26.58	10.60
0			
1	-----		
2	SHEE0010-027 05/01/2002		
3			
4	HOUSTON COUNTY		
5			

	Rates	Fringes
Sheet Metal Worker.....	\$ 22.27	8.28
-----		
SHEE0010-029 06/08/2003		
CLAY COUNTY		
	Rates	Fringes
Sheet Metal Worker.....	\$ 19.49	8.65
-----		
TEAM0132-006 05/01/2000		
CHISAGO (Northern half) AND ISANTI COUNTIES		
	Rates	Fringes
Truck Driver (Treatment Plants).....	\$ 23.08	
-----		
TEAM0160-009 05/01/2002		
ANOKA, CARVER, CHISAGO (S. of T. 34-N), DAKOTA, HENNEPIN, RAMSEY, SCOTT, SHERBURNE, WASHINGTON & WRIGHT COUNTIES		
	Rates	Fringes
Truck drivers: (Heavy, Sewer & Water Lines)		
AREA 1:		
GROUP 1.....	\$ 21.60	6.50
GROUP 2.....	\$ 21.05	6.50
GROUP 3.....	\$ 20.95	6.50
GROUP 4.....	\$ 20.70	6.50
AREA 2:		
GROUP 1.....	\$ 21.40	6.50
GROUP 2.....	\$ 20.85	6.50
GROUP 3.....	\$ 20.75	6.50
GROUP 4.....	\$ 20.50	6.50
AREA 3:		
GROUP 1.....	\$ 19.60	6.50
GROUP 2.....	\$ 19.05	6.50
GROUP 3.....	\$ 18.95	6.50
GROUP 4.....	\$ 18.75	6.50
AREA 4:		
GROUP 1.....	\$ 17.52	6.50
GROUP 2.....	\$ 17.01	6.50
GROUP 3.....	\$ 16.86	6.50
GROUP 4.....	\$ 16.86	6.50
AREA DESCRIPTIONS		
AREA 1 (District 1): ANOKA, CARVER, CHISAGO (S. of T. 34-N), DAKOTA, HENNEPIN, RAMSEY, SCOTT, SHERBURNE, WASHINGTON & WRIGHT COUNTIES		
AREA 2 (DISTRICT 2): ST. LOUIS COUNTY		

7  
8 AREA 3 (District 3): HOUSTON & OLMSTED COUNTIES  
9  
0 AREA 4 (District 4: BENTON, CHISAGO (North of T. 34-N), CLAY,  
1 ISANTI, POLK & STEARNS COUNTIES  
2  
3 TRUCK DRIVER CLASSIFICATIONS  
4  
5 GROUP 1 - Boom; Mechanic; Off-Road, including Articulated  
6 Dump Truck; Tractor Trailer; Winch Truck  
7  
8 GROUP 2 - Tri Axles (Including Four Axles)  
9  
0 GROUP 3 - Bituminous Distributor; Bituminous Distributor (One  
1 man operation); Tandem Axles; & Single Axles  
2  
3 GROUP 4 - Bituminous Distributor Spray Operator (Rear and  
4 Oiler); Dumpman; Pilot Car; Self-propelled Packer; Slurry  
5 Operator; Tank Truck Tender (Gas, Oil, Road Oil & Water);  
6 Tractor Operator (Wheel type used for any purpose)  
7  
8 THE FOLLOWING CLASSIFICATIONS SHALL COME UNDER THE  
9 APPROPRIATE AXLE RATE WAGE GROUP:  
0 "A" Frame; Dry Batch Hauler; Ready-Mix Concrete; Slurry;  
1 Tank (Gas, Oil, Road Oil & Water)  
2

3 TEAM0221-004 06/01/2002

	Rates	Fringes
Truck drivers: (Landscape)		
Single Axles & Farm		
Tractors.....	\$ 14.20	6.20
Truck drivers:		
Tandem Axles.....	\$ 14.35	6.20
Truck-Train Combination.....	\$ 14.50	6.20

5 -----  
6 TEAM0346-004 05/01/2003

7  
8 ANOKA, CARVER, CHISAGO (Southern half), DAKOTA, HENNEPIN,  
9 RAMSEY, ST. LOUIS, SCOTT, SHERBURNE, WASHINGTON & WRIGHT  
0 COUNTIES  
1  
2 Rates Fringes  
3  
4 Truck drivers: (Treatment  
5 Plants)  
6 GROUP 1.....\$ 22.65 6.75  
7 GROUP 2.....\$ 22.10 6.75  
8 GROUP 3.....\$ 22.00 6.75  
9 GROUP 4.....\$ 21.75 6.75  
0

1 TRUCK DRIVER CLASSIFICATIONS

2  
3 GROUP 1: Boom Truck

4  
5 GROUP 2: Ready Mix, Tractor Trailor

6  
7 GROUP 3: Fork Lift, Mechanic, Tandem or 3 axle Truck

8  
9 GROUP 4: Dumpman, Farm Tractor, Single or 2 axle Truck  
0 -----  
1 TEAM0405-003 05/01/1999  
2  
3 Rates Fringes  
4  
5 Truck drivers: (Treatment  
6 Plants)  
7 Houston County.....\$ 15.49  
8  
9 Truck drivers:  
0 Olmsted County.....\$ 16.94  
1  
2 -----  
3 TEAM0563-003 05/01/1999  
4  
5 BENTON, CLAY (Except City limits of Moorhead) & STEARNS COUNTIES  
6  
7 Rates Fringes  
8  
9 Truck drivers: (Treatment  
0 Plants)  
1 Projects \$950,000 & over....\$ 15.59 15.59  
2  
3 Truck drivers:  
4 Projects under \$950,000.....\$ 13.84  
5  
6 -----  
7 TEAM0580-003 04/19/1999  
8  
9 Rates Fringes  
0  
1 Truck Driver (Treatment  
2 Plants).....\$ 14.05  
3  
4 -----  
5 TEAM1097-002 05/01/2001  
6  
7 POLK COUNTY (Excluding the city limits of East Grand Forks)  
8  
9 Rates Fringes  
0  
1 Truck drivers: (Treatment  
2 Plants)  
3 \$750,000 & over  
4 including Electrical &  
5 Mechanical.....\$ 15.68  
6 Under \$760,000,  
7 including Electrical  
8 & Mechanical.....\$ 13.48  
9  
0 -----  
1  
2 WELDERS - Receive rate prescribed for craft performing  
3 operation to which welding is incidental.  
4 =====  
5  
6 Unlisted classifications needed for work not included within  
7 the scope of the classifications listed may be added after  
8 award only as provided in the labor standards contract clauses

9 (29CFR 5.5 (a) (1) (ii)).

0

1 -----

2

3 In the listing above, the "SU" designation means that rates  
4 listed under the identifier do not reflect collectively  
5 bargained wage and fringe benefit rates. Other designations  
6 indicate unions whose rates have been determined to be  
7 prevailing.

8

9 -----

0

1 WAGE DETERMINATION APPEALS PROCESS

2

3 1.) Has there been an initial decision in the matter? This can  
4 be:

5

- 6 \* an existing published wage determination
- 7 \* a survey underlying a wage determination
- 8 \* a Wage and Hour Division letter setting forth a position on
- 9 a wage determination matter
- 0 \* a conformance (additional classification and rate) ruling

1

2 On survey related matters, initial contact, including requests  
3 for summaries of surveys, should be with the Wage and Hour  
4 Regional Office for the area in which the survey was conducted  
5 because those Regional Offices have responsibility for the  
6 Davis-Bacon survey program. If the response from this initial  
7 contact is not satisfactory, then the process described in 2.)  
8 and 3.) should be followed.

9

0 With regard to any other matter not yet ripe for the formal  
1 process described here, initial contact should be with the  
2 Branch of Construction Wage Determinations. Write to:

3

4 Branch of Construction Wage Determinations

5

6 Wage and Hour Division

7

8 U.S. Department of Labor

9

0 200 Constitution Avenue, N.W.

1

2 Washington, DC 20210

3

4 2.) If the answer to the question in 1.) is yes, then an  
5 interested party (those affected by the action) can request  
6 review and reconsideration from the Wage and Hour Administrator  
7 (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

8

9 Wage and Hour Administrator

0

1 U.S. Department of Labor

2

3 200 Constitution Avenue, N.W.

4

5 Washington, DC 20210

6

7 The request should be accompanied by a full statement of the  
8 interested party's position and by any information (wage  
9 payment data, project description, area practice material,

0 etc.) that the requestor considers relevant to the issue.

1

2 3.) If the decision of the Administrator is not favorable, an  
3 interested party may appeal directly to the Administrative  
4 Review Board (formerly the Wage Appeals Board). Write to:

5

6 Administrative Review Board

7

8 U.S. Department of Labor

9

0 200 Constitution Avenue, N.W.

1

2 Washington, DC 20210

3

4 4.) All decisions by the Administrative Review Board are final.

5

6 =====

7

8 END OF GENERAL DECISION

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Section 00830

ATTACHMENT B

WAGE RATES  
LOCK 5





General Decision Number: MN030059 05/14/2004

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General Decision Number: **MN030059** 05/14/2004

Superseded General Decision Number: MN020059

State: **Minnesota**

Construction Types: Heavy

Counties: Aitkin, Becker, Beltrami, Big Stone, Blue Earth, Brown, Carlton, Cass, Chippewa, Clearwater, Cook, Cottonwood, Crow Wing, Dodge, Douglas, Faribault, Fillmore, Freeborn, Goodhue, Grant, Hubbard, Itasca, Jackson, Kanabec, Kandiyohi, Kittson, Koochiching, Lac Qui Parle, Lake, Lake of the Woods, Le Sueur, Lincoln, Lyon, Mahnomen, Marshall, Martin, McLeod, Meeker, Mille Lacs, Morrison, Mower, Murray, Nicollet, Nobles, Norman, Otter Tail, Pennington, Pine, Pipestone, Pope, Red Lake, Redwood, Renville, Rice, Rock, Roseau, Sibley, Steele, Stevens, Swift, Todd, Traverse, Wabasha, Wadena, Waseca, Watonwan, Wilkin, Winona and Yellow Medicine Counties in **Minnesota**.

HEAVY CONSTRUCTION PROJECTS (Does not include Water & Sewer Lines or Treatment Plants)

Modification Number	Publication Date
0	06/13/2003
1	01/02/2004
2	04/23/2004
3	05/14/2004

ELEC0110-009 05/01/2002

GOODHUE (West of Belle Creek, Minneola, Roscoe & Vasa Townships), KANABEC (South of Hillman, Peace & Pomroy Townships), LE SUEUR (East of Cleveland, Sharon, Tyrone & Washington Townships), MILLE LACS (South of Bradbury, Lewis & Onamia Townships), PINE (South of Arione, Barry, Clover, Hinckley & Ogema Townships) & RICE COUNTIES

	Rates	Fringes
Cable splicer.....	\$ 30.45	28.5%+5.77
Electrician.....	\$ 29.45	28.5%+5.77

ELEC0242-006 06/01/2002

AITKIN, CARLTON, CASS (Bounded on the north by the south line of Leech Lake, **Minnesota** Island, Could, Bay River & Salem Townships), COOK, CROW WING, HUBBARD (Except Rockwood, Helga, Farden, Lake Hattie, Schoolcraft, Guthrie, Hart Lake, Lake Alice, Lake George, Hendrickson & Lakeport), ITASCA (Southerly 12 Townships, including Harris, Feely, Blackberry, Spang, Coodland, Sago & Wawina), KANABEC (Northern part, including Brook, Ford, Krosche, Hillman, Peace & Pomroy Townships), LAKE, MILLE LACS (Including Northerly Townships of Kathio, South Harbor, Isle, East Side, Onamia & Harbor), MORRISON, PINE (Excluding southerly Townships of Brook Park, Mission Creek, Munch, Crosby, Pokegama, Cross Lake, Chengwatana, Royalton, Rock Creek & Pine City), TODD & WADENA COUNTIES

	Rates	Fringes
Electrician.....	\$ 26.14	49.5

ELEC0292-005 05/01/2003

BIG STONE, CHIPPEWA, KANDIYOHI, LAC QUI PARLE, MCLEOD, MEEKER,

## POPE, STEVENS &amp; SWIFT COUNTIES

	Rates	Fringes
Electricians:		
ELECTRICAL CONTRACTS		
\$1,000,000 AND OVER:		
Cable Splicer.....	\$ 28.24	40.6%
Electrician.....	\$ 27.24	40.6%
ELECTRICAL CONTRACTS		
UNDER \$1,000,000:		
Cable Splicer.....	\$ 27.05	54.74%
Electrician.....	\$ 26.05	54.74%

-----  
ELEC0294-007 06/01/2003

CASS (Northern part, bounded on the south by a line extending east & west of the south line of Boy River & Salem Townships),  
HUBBARD (Northern part, bounded on the south by a line extending east & west of the south line of Lake Alice & Lake George Townships) & KOOCHICHING COUNTIES

	Rates	Fringes
Cable splicer.....	\$ 26.90	53%
Electrician.....	\$ 26.35	53%

-----  
ELEC0294-009 06/01/2003

BELTRAMI, CLEARWATER, ITASCA (Excluding the section south of a line extending east & west of the south line of Grand Rapids & Trout Lake Townships) & LAKE OF THE WOODS (Excluding the northwest angle) COUNTIES

	Rates	Fringes
Electricians:		
Electrical		
Installations		
\$3,000,000 and over		
Cable Splicer.....	\$ 26.90	53%
Electrician.....	\$ 26.35	53%
Electrical		
Installations Under		
\$3,000,000.....	\$ 20.83	4.30+28.5%

-----  
ELEC0343-006 06/01/2002

BLUE EARTH, BROWN, COTTONWOOD, DODGE, FARIBAULT, FILLMORE, FREEBORN, GOODHUE (Except that portion west of Belle Creek, Minneola, Roscoe & Vasa Townships), JACKSON, LE SUEUR (Cleveland, Le Sueur, Ottawa, Sharon, Tyrone, Washington & Kasota Townships), LINCOLN, LYON, MARTIN, MOWER, NICOLLET, REDWOOD, RENVILLE, SIBLEY, STEELE, WABASHA, WASECA, WATONWAN, WINONA & YELLOW MEDICINE COUNTIES

	Rates	Fringes
Cable splicer.....	\$ 25.72	15%+8.27
Electrician.....	\$ 24.72	15%+8.27

-----  
ELEC0426-003 06/01/1999

MURRAY, NOBLES, PIPESTONE &amp; ROCK COUNTIES

	Rates	Fringes
Electricians:		
AREA 1:		
CABLE SPLICER.....	\$ 20.90	6.34
ELECTRICIAN.....	\$ 19.00	6.105
AREA 2:		
CABLE SPLICER.....	\$ 23.54	6.67
ELECTRICIAN.....	\$ 21.40	6.405

AREA 1: 0 to 10 miles from Worthington, **Minnesota**, and 0 to

70 miles from Sioux Falls, South Dakota

AREA 2: Outside the above area.

-----  
ELEC1426-006 06/01/2002

BECKER, DOUGLAS, GRANT, KITTSO, MAHNOMEN, MARSHALL, NORMAN,  
OTTER TAIL, PENNINGTON, RED LAKE, ROSEAU, TRAVERSE & WILKIN  
COUNTIES

	Rates	Fringes
Cable splicer.....	\$ 21.60	12%+6.20
Electrician.....	\$ 20.57	12%+6.20

-----

\* ENGI0049-021 05/01/2004

	Rates	Fringes
Power Equipment Operator		
AREA 1:		
GROUP 1.....	\$ 27.57	10.35
GROUP 2.....	\$ 27.02	10.35
GROUP 3.....	\$ 26.84	10.35
GROUP 4.....	\$ 26.72	10.35
GROUP 5.....	\$ 23.68	10.35
GROUP 6.....	\$ 22.47	10.35
AREA 2:		
GROUP 1.....	\$ 25.11	10.35
GROUP 2.....	\$ 24.66	10.35
GROUP 3.....	\$ 24.49	10.35
GROUP 4.....	\$ 24.36	10.35
GROUP 5.....	\$ 21.79	10.35
GROUP 6.....	\$ 20.92	10.35
AREA 3:		
GROUP 1.....	\$ 22.10	10.35
GROUP 2.....	\$ 21.17	10.35
GROUP 3.....	\$ 20.97	10.35
GROUP 4.....	\$ 20.86	10.35
GROUP 5.....	\$ 19.15	10.35
GROUP 6.....	\$ 18.55	10.35

#### AREA DESCRIPTIONS

AREA 1 (METRO): COOK & LAKE COUNTIES

AREA 2 (EASTERN): AITKIN, BLUE EARTH, CARLTON, CASS (South of the northern right-of-way of U.S. Hwy #2 & east of the Western right-of-way of U.S. Hwy #371), CROW WING (East of the western right-of-way of U.S. Hwy #371), DODGE, FARIBAULT, FILLMORE, FREEBORN, GOODHUE, ITASCA (East of the western right-of-way of **MN** Hwy #6), KANABEC, KOCHICHING (East of a north-south line from the Canadian border to Pelland, the western right-of-way of U.S. Hwy #71 from Pelland to Big Falls & **MN** Hwy #6), LE SUEUR, MEEKER, MILLE LACS, MORRISON (East of the western right-of-way of U.S. Hwy #371 & U.S. Hwy #10 from Little Falls to the Morrison-Benton County line), MOWER, PINE, RICE, STEELE, WABASHA, WASECA & WINONA COUNTIES; & BROWN, MCLEOD, MARTIN, NICOLLET, SIBLEY & WATONWAN COUNTIES (East of the Western right-of-way of **MN** Hwy #15)

AREA 3 (WESTERN): BECKER, BELTRAMI, BIG STONE, CASS (Remainder), CHIPPEWA, CLEARWATER, COTTONWOOD, CROW WING (Remainder), DOUGLAS, GRANT, HUBBARD, ITASCA (Remainder), JACKSON, KANDIYOH, KITTSO, KOCHICHING (Remainder), LAC QUI PARLE, LAKE OF THE WOODS, LINCOLN, LYON, MAHNOMEN, MARSHALL, MORRISON (Remainder), MURRAY, NOBLES, NORMAN, OTTER TAIL, PENNINGTON, PIPESTONE, POPE, RED LAKE, REDWOOD, RENVILLE, ROCK, ROSEAU, STEVENS, SWIFT, TODD, TRAVERSE, WADENA, WILKIN & YELLOW MEDICINE COUNTIES; & BROWN, MCLEOD, MARTIN, MEEKER, NICOLLET, SIBLEY & WATONWAN (Remainder) COUNTIES

## POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1 - \*Crane with over 135' Boom, excluding Jib; & Hydraulic Backhoe and/or other similar equipment with Shovel-type Controls 3 cu. yds. & over

GROUP 2 - Hydraulic Backhoe and/or similar equipment with Shovel-type Controls, up to 3 cu. yds.; Front End Loader, 5 cu. yds. & over; Locomotive Crane; Master Mechanic; Tandem Scraper; Tractor, boom type; Truck Crane, Crawler Crane

GROUP 3 - Dual Tractor; & Scraper - Struck Cap. 32 cu. yds. & over

GROUP 4 - Bituminous Roller (8 Tons & over); Cat Tractor with Rock Wagon or similar type; Front End Loader, over 1 cu. yd.; Mechanic; Rubber-tired Farm Tractor, Backhoe Attach.; Scraper, up to 32 cu. yds.; Skid Steer Loader, over 1 cu. yd. with Backhoe Attachment; Tractor, Bulldozer; Tractor Operator, over 50 HP with Power Take-off; & Dismantling or Repair Mechanic

GROUP 5 - Bituminous Roller (Under 8 tons); Bituminous Rubber-tired Roller; Front End Loader, up to & incl. 1 cu. yd.; Loader (Barber Greene or similar type); & Tractor Operator, Bulldozer, 50 HP or less

GROUP 6 - Mechanic Tender; Mechanic, Space Heater (Temporary Heat); Roller on Gravel Compaction; Sheep Foot Roller; Tractor, Wheel type (over 50 HP); & Truck Crane Oiler

CRANE OVER 135' BOOM, EXCLUDING JIB - \$ .25 PREMIUM;

CRANE OVER 200' BOOM, EXCLUDING JIB - \$ .50 PREMIUM

UNDERGROUND WORK:

TUNNELS, SHAFTS, ETC. - \$ .25 PREMIUM

UNDER AIR PRESSURE - \$ .50 PREMIUM

HAZARDOUS WASTE PROJECTS (PPE Required):

LEVEL A - \$1.25 PREMIUM

LEVEL B - \$ .90 PREMIUM

LEVEL C - \$ .60 PREMIUM

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IRON0184-004 05/01/2003

JACKSON, LINCOLN, MARTIN, MURRAY, NOBLES, PIPESTONE & ROCK COUNTIES

	Rates	Fringes
Ironworker.....	\$ 18.28	7.005

-----

IRON0512-012 05/01/2003

BIG STONE, BLUE EARTH, BROWN, CHIPPEWA, COTTONWOOD, DODGE, DOUGLAS, FARIBAULT, FILLMORE, FREEBORN, GOODHUE, GRANT, KANABEC, KANDIYOH, LAC QUI PARLE, LE SUEUR, LYON, MCLEOD, MEEKER, MILLE LACS, MORRISON, MOWER, NICOLLET, OTTER TAIL, POPE, REDWOOD, RENVILLE, RICE, SIBLEY, STEELE, STEVENS, SWIFT, TODD, TRAVERSE, WABASHA, WADENA, WASECA, WATONWAN, WINONA & YELLOW MEDICINE COUNTIES

	Rates	Fringes
Ironworker.....	\$ 29.50	11.84

-----

IRON0563-010 05/01/2003

AITKIN, BECKER, BELTRAMI, CARLTON, CASS, CLEARWATER, COOK, CROW- WING, HUBBARD, ITASCA, KOCHICHING, LAKE, LAKE OF THE WOODS, MAHNOMEN, PENNINGTON, PINE, RED LAKE & ROSEAU COUNTIES

	Rates	Fringes
Ironworker.....	\$ 24.33	13.75

-----

IRON0793-004 05/01/2002

KITTSO, MARSHALL, NORMAN & WILKIN COUNTIES

	Rates	Fringes
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Ironworker.....	\$ 19.14	9.73
-----		
LABO0563-008 05/01/2002		
	Rates	Fringes
Laborers:		
AREA 1:		
Flagger, Pipelayer.....	\$ 22.89	6.21
Tunnel.....	\$ 23.59	6.21
AREA 2:		
Flagger, Pipelayer.....	\$ 22.17	5.96
Tunnel.....	\$ 22.87	5.96
AREA 3:		
Flagger, Pipelayer.....	\$ 21.62	6.51
Tunnel.....	\$ 22.32	6.51
AREA 4:		
Flagger, Pipelayer.....	\$ 18.54	5.86
Tunnel.....	\$ 19.24	5.86
AREA 5:		
Flagger, Pipelayer.....	\$ 19.59	5.76
Tunnel.....	\$ 20.29	5.76
AREA 6:		
Flagger, Pipelayer.....	\$ 15.74	5.21
Tunnel.....	\$ 16.44	5.21
AREA DESCRIPTIONS		
AREA 1: (District 1): PINE COUNTY		
AREA 2: (District 2A): CARLTON, COOK & LAKE COUNTIES		
AREA 3 : (District 2B): ITASCA COUNTY		
AREA 4: (District 3A): KANABEC & MILLE LACS COUNTIES		
AREA 5 : (District 3B): BLUE EARTH, BROWN, DODGE,		
FARIBAULT, FILLMORE, FREEBORN, GOODHUE, LE SUEUR, MOWER,		
NICOLLET, RICE, STEELE, WABASHA, WASECA AND WINONA COUNTIES		
AREA 6: (District 4): AITKIN, BECKER, BELTRAMI, BIG STONE,		
CASS, CHIPPEWA, CLEARWATER, COTTONWOOD, CROW WING, DOUGLAS,		
GRANT, HUBBARD, JACKSON, KANDIYOH, KITTSON, KOCHICHING, LAC		
QUI PARLE, LAKE OF THE WOODS, LINCOLN, LYON, MAHNOMEN,		
MARSHALL, MARTIN, MCLEOD, MEEKER, MORRISON, MURRAY, NOBLES,		
NORMAN, OTTER TAIL, PENNINGTON, PIPESTONE, POPE, RED LAKE,		
REDWOOD, RENVILLE, ROCK, ROSEAU, SIBLEY, STEVENS, SWIFT,		
TODD, TRAVERSE, WADENA, WATONWAN, WILKIN AND YELLOW MEDICINE		
COUNTIES		
-----		
PLUM0006-004 08/01/2003		
DODGE, FARIBAULT, FILLMORE, FREEBORN, GOODHUE (Southern half),		
MOWER, RICE, STEELE, WABASHA, WASECA & WINONA COUNTIES		
	Rates	Fringes
Pipefitter.....	\$ 30.86	10.30
-----		
PLUM0011-006 05/01/2003		
CARLTON, COOK (A strip 20 miles inland along the shores of Lake		
Superior), KANABEC, LAKE (A strip 20 miles inland along the		
shores of Lake Superior) & PINE COUNTIES		
	Rates	Fringes
Pipefitter.....	\$ 28.45	10.55
-----		
PLUM0126-004 05/15/2002		
AITKIN, BECKER, BELTRAMI, CASS (Southern half), CLEARWATER,		
CROW WING, DOUGLAS, GRANT, HUBBARD, KITTSON, LAKE OF THE WOODS,		
MAHNOMEN, MARSHALL, NORMAN, OTTER TAIL, PENNINGTON, RED LAKE,		
ROSEAU, TRAVERSE, WADENA & WILKIN COUNTIES		
	Rates	Fringes
Pipefitter		

Mechanical Projects		
\$2,000,000 and above.....	\$ 28.29	8.31
Mechanical Projects		
under \$2,000,000.....	\$ 25.89	8.31

-----  
 PLUM0455-005 05/01/2002  
 GOODHUE COUNTY (Northern half)

	Rates	Fringes
Pipefitter.....	\$ 31.22	10.64

-----  
 PLUM0455-011 05/01/2002  
 BLUE EARTH, BROWN, COTTONWOOD, JACKSON, LE SUEUR, LINCOLN,  
 LYON, MARTIN, MURRAY, NICOLLET, NOBLES, PIPESTONE, REDWOOD,  
 RENVILLE, ROCK, SIBLEY & WATONWAN COUNTIES

	Rates	Fringes
Pipefitter.....	\$ 24.84	10.70

-----  
 PLUM0539-005 05/01/2002  
 MCLEOD & MILLE LACS COUNTIES

	Rates	Fringes
Pipefitter.....	\$ 31.30	10.70

-----  
 PLUM0539-009 05/01/2002  
 BIG STONE, CHIPPEWA, KANDIYOH, LAC QUI PARLE, MEEKER,  
 MORRISON, POPE, STEVENS, SWIFT, TODD & YELLOW MEDICINE COUNTIES

	Rates	Fringes
Pipefitter.....	\$ 24.71	13.03

-----  
 PLUM0589-004 06/01/2002  
 CASS (North of a parallel line drawn from the northern boundary  
 of Crow Wing County, west to the east boundary of Wadena  
 County), COOK (Except a strip 20 miles inland along the shores  
 of Lake Superior), ITASCA KOCHICHING, & LAKE (Except a strip 20  
 miles inland along the shores of Lake Superior) COUNTIES

	Rates	Fringes
Pipefitter.....	\$ 24.56	12.13

-----  
 SUMN1994-003 07/08/1994

	Rates	Fringes
Carpenter.....	\$ 13.73	2.55
Laborers:		
Landscape.....	\$ 5.15	
Unskilled.....	\$ 12.33	3.18
Painter, Steel.....	\$ 19.42	4.72
Power Equipment Operator		
Dragline.....	\$ 13.41	3.95
Grader.....	\$ 12.03	2.84

-----  
 WELDERS - Receive rate prescribed for craft performing  
 operation to which welding is incidental.

=====

Unlisted classifications needed for work not included within  
 the scope of the classifications listed may be added after  
 award only as provided in the labor standards contract clauses  
 (29CFR 5.5 (a) (1) (ii)).

-----  
 In the listing above, the "SU" designation means that rates  
 listed under the identifier do not reflect collectively  
 bargained wage and fringe benefit rates. Other designations  
 indicate unions whose rates have been determined to be  
 prevailing.

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WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- \* an existing published wage determination
  - \* a survey underlying a wage determination
  - \* a Wage and Hour Division letter setting forth a position on a wage determination matter
  - \* a conformance (additional classification and rate) ruling
- On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations  
Wage and Hour Division  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

=====

END OF GENERAL DECISION





SECTION 00830

ATTACHMENT C

LOCK AND DAM 2  
SPRING OPENING AND FALL CLOSING DATES



**ST. PAUL DISTRICT  
SPRING OPENING AND FALL CLOSING DATES  
LOCK AND DAM 2**

YEAR	OPENING DATE	CLOSING DATE	LENGTH OF SEASON	YEAR	OPENING DATE	CLOSING DATE	LENGTH OF SEASON
1936				1975	22-Mar	14-Dec	268
1937				1976	05-Mar	04-Dec	275
1938				1977	17-Mar	04-Dec	263
1939				1978	03-Apr	30-Nov	242
1940				1979	01-Apr	08-Dec	252
1941				1980	27-Mar	03-Dec	252
1942				1981	09-Mar	03-Dec	270
1943				1982	25-Mar	07-Dec	258
1944				1983	04-Mar	04-Dec	276
1945				1984	04-Mar	30-Nov	272
1946				1985	18-Mar	29-Nov	257
1947				1986	23-Mar	26-Nov	249
1948				1987	10-Mar	28-Nov	264
1949				1988	21-Mar	29-Nov	254
1950				1989	31-Mar	24-Nov	239
1951				1990	18-Mar	28-Nov	256
1952				1991	23-Mar	22-Nov	245
1953				1992	09-Mar	01-Dec	268
1954				1993	23-Mar	27-Nov	250
1955				1994	25-Mar	29-Nov	250
1956				1995	15-Mar	29-Nov	260
1957				1996	19-Mar	25-Nov	252
1958				1997	29-Mar	24-Nov	241
1959				1998	11-Mar	15-Dec	280
1960				1999	19-Mar	09-Dec	266
1961				2000	04-Mar	29-Nov	271
1962				2001	04-Mar	07-Dec	279
1963				2002	16-Mar	27-Nov	257
1964				2003	30-Mar	11-Dec	257
1965				2004			
1966				2005			
1967				2006			
1968				2007			
1969	16-Mar	05-Dec	265	2008			
1970	09-Mar	03-Dec	270	2009			
1971	20-Mar	16-Dec	272	2010			
1972	24-Mar	06-Dec	258	2011			
1973	18-Mar	06-Dec	264	2012			
1974	15-Mar	11-Dec	272	2013			

SECTION 00830

ATTACHMENT D

LOCK AND DAM 5  
SPRING OPENING AND FALL CLOSING DATES



**ST. PAUL DISTRICT  
SPRING OPENING AND FALL CLOSING DATES  
LOCK AND DAM 5**

YEAR	OPENING DATE	CLOSING DATE	LENGTH OF SEASON	YEAR	OPENING DATE	CLOSING DATE	LENGTH OF SEASON
1936				1975	20-Mar	14-Dec	270
1937				1976	04-Mar	05-Dec	277
1938				1977	27-Mar	09-Dec	258
1939				1978	05-Apr	30-Nov	240
1940				1979	30-Mar	04-Dec	250
1941				1980	26-Mar	04-Dec	254
1942				1981	07-Mar	04-Dec	273
1943				1982	24-Mar	07-Dec	259
1944				1983	03-Mar	09-Dec	282
1945				1984	03-Mar	30-Nov	273
1946				1985	17-Mar	01-Dec	260
1947				1986	21-Mar	05-Dec	260
1948				1987	10-Mar	01-Dec	267
1949				1988	20-Mar	30-Nov	256
1950				1989	27-Mar	23-Nov	242
1951				1990	13-Mar	29-Nov	262
1952				1991	21-Mar	24-Nov	249
1953				1992	08-Mar	01-Dec	269
1954				1993	21-Mar	27-Nov	252
1955				1994	24-Mar	29-Nov	251
1956				1995	17-Mar	28-Nov	257
1957				1996	20-Mar	25-Nov	251
1958				1997	26-Mar	25-Nov	245
1959				1998	10-Mar	17-Dec	283
1960				1999	19-Mar	10-Dec	267
1961	16-Mar	30-Nov	260	2000	03-Mar	29-Nov	272
1962	30-Mar	03-Dec	249	2001	03-Mar	05-Dec	278
1963	31-Mar	04-Dec	249	2002	14-Mar	28-Nov	260
1964	01-Mar	06-Dec	281	2003	29-Mar	29-Nov	246
1965	02-Apr	05-Dec	248	2004			
1966	14-Mar	07-Dec	269	2005			
1967	22-Mar	10-Dec	264	2006			
1968	18-Mar	11-Dec	269	2007			
1969	15-Mar	08-Dec	269	2008			
1970	08-Mar	06-Dec	274	2009			
1971	18-Mar	07-Dec	265	2010			
1972	23-Mar	09-Dec	262	2011			
1973	17-Mar	05-Dec	264	2012			
1974	14-Mar	12-Dec	274	2013			

Locks 2 & 5 Stoplog Slot Installation

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# Locks 2 & 5 Stoplog Slot Installation

## SECTION 01000

### GENERAL

#### PART 1 GENERAL

##### 1.1 DESCRIPTION OF WORK

These specifications cover the contract work at Lock and Dam #2 and Lock and Dam #5. The work at both sites is the same in scope. Differences in requirements are noted on the drawings and in the specifications. The work is to be bid as 2 separate projects. A bidder may bid on one or both of the projects. The contract work at each site is for the installation of upstream and downstream stoplog recesses (slots) on the land and intermediate or River lock walls. The work includes, but is not limited to: cofferdams, diving, concrete demolition, providing and installing concrete, reinforcement, corner protection, and wall armor for new stoplog slots, removing downstream miter gate anchorages, fabricating and installing new miter gate anchorages, removing and replacing handrail, removing and reinstalling tow haulage sheaves and check posts, fabricating and installing new Lock wall ladders and mooring hooks, and fabricating and installing new stoplog recess covers. Work affecting lock operation shall be limited to the winter non-navigation season (December through February).

##### 1.2 ORGANIZATION OF SPECIFICATIONS

The specifications which govern the materials and equipment to be furnished and the work to be performed under this contract are listed in the Table of Contents. No attempt has been made in the specifications to segregate work to be performed by any trade, craft, or subcontractor. Any segregation between the trades or crafts shall be solely a matter for agreement between the Contractor, Contractor's employees, and subcontractors.

##### 1.3 MEASUREMENT AND PAYMENT

The Contractor shall be responsible for the work of this section, without any direct compensation being made other than the payment received for contract line items on the bidding schedule.

#### PART 2 PRODUCTS

##### 2.1 RECYLED/RECOVERED MATERIALS

Government procurement policy is to acquire, in a cost effective manner, items containing the highest percentage of recycled and recovered materials practicable consistent with maintaining a satisfactory level of competition without adversely affecting performance requirements or exposing suppliers' employees to undue hazards from the recovered materials. The Environmental Protection Agency (EPA) has designated certain items which must contain a specified percent range of recovered or recycled materials. EPA designated products specified in this contract comply with the stated policy and with the EPA guidelines. The Contractor shall make all reasonable efforts to use recycled and recovered materials in providing the EPA designated

## Locks 2 & 5 Stoplog Slot Installation

products and in otherwise utilizing recycled and recovered materials in the execution of the work.

### PART 3 EXECUTION

#### 3.1 DISPOSAL OF DEBRIS AND WASTE

The Contractor's attention is directed to Section 01355 ENVIRONMENTAL PROTECTION and to the following CONTRACT CLAUSES: 52.236-7 PERMITS AND RESPONSIBILITIES; 52.236-9 PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS; 52.236-10 OPERATIONS AND STORAGE AREAS; and 52.236-12 CLEANING UP. Burning will not be permitted at the project site and debris or waste shall not be left on the site.

##### 3.1.1 Disposal in a locally operated sanitary landfill

Contractor shall select the disposal site with the approval of the Contracting Officer. The Contractor shall secure the required permits for disposal and provide copies of the permit to the Contracting Officer.

##### 3.1.2 Disposal of Solid Construction Debris and Waste

Disposal of Solid Construction Debris and Waste shall consist of removal from Government property and disposal in compliance with Federal, state, and local requirements for solid waste disposal. Contractor shall select the disposal site with the approval of the Contracting Officer.

#### 3.2 SCHEDULING

##### 3.2.1 General

It shall be the responsibility of the Contractor to schedule and execute the work, incorporating the necessary requirements set forth in these specifications. The Contractor shall develop and submit a schedule in accordance with CONTRACT CLAUSE: 52.236-15 SCHEDULES FOR CONSTRUCTION CONTRACTS.

The lock chamber(s) will closed to navigation and available for Contractor's use from December 1, 2004 until March 1, 2005. The Government will notify the Contractor if navigation closes prior to December 1, 2004 and the lock is available for the contractor's use. Upon receipt of notice to proceed, the contractor may perform preparatory work prior to closure of the lock chamber to navigation on December 1, 2004. Preparatory work shall not interfere with normal lock operations. Preparatory work shall be identified in the contractor's work plan submittal for review and approval by the Contracting Officer's Representative to assure no adverse impacts to lock operations. The Contractor shall schedule its work to the maximum advantage of the time frame available. All work shall be complete and equipment and cofferdams removed from the lock chamber by March 1, 2005.

For the Contractor's information, historic opening and closing dates for Lock and Dam 2 and Lock and Dam 5 are provided in Section 00830: ATTACHMENTS.

##### 3.2.2 Downstream Stoplog Slots

The Contractor shall not begin work on the downstream stoplog slots until the downstream miter gates have been recessed, blocked, and secured

## Locks 2 & 5 Stoplog Slot Installation

in-place. The Contractor shall be responsible for recessing, blocking, and securing the downstream miter gates prior to beginning work. The Contractor shall provide the Contracting Officer a work plan for securing, blocking, and adjusting the downstream miter gates. The upstream miter gates will not require recessing and must remain in the closed/mitered position.

### 3.2.3 Notification

The Contractor shall inform the Government in writing within 5 days after receipt of notice to proceed and before work begins, or another period of time as determined by the Contracting Officer, as to which hours of the day and days of the week work under this contract will be performed. The Contractor shall notify the Government at least 24 hours before work is to be conducted on overtime, in multiple shifts, on weekends, or on Federal Government holidays.

### 3.2.4 Cofferdam and Dewatering

The Contractor shall design, install, maintain, and operate cofferdam dewatering systems to dewater the work areas.

### 3.2.5 Control of Snow and Ice

The Contractor shall be responsible for removing snow and ice to access storage and staging areas as necessary to facilitate Contractor operations. In addition, the contractor shall be responsible for all ice management in and around the lock chamber during the construction period. Use of salt or corrosive agents shall not be permitted.

#### 3.2.5.1 Government Responsibility

The Government will clear snow from the top of the lock walls and the access into the site and designated Government parking areas within 24 hours following a snowfall. The Government will not clear snow from areas in the Contractor's work areas.

### 3.2.6 Lock and Dam Operations

The Contractor shall not interfere with normal lock and dam operations. Lock and Dam personnel will not accept deliveries, phone calls, or mail or deliver messages for the Contractor.

## 3.3 OTHER CONTRACTS

There is currently no other work planned or scheduled for construction under separate contract prior to completion of work under this contract. If another contract is required, the contract will be considered in the application of CONTRACT CLAUSE: 52.236-8 OTHER CONTRACTS. In this event, the Contractor shall coordinate with other contractors in the performance of the work and schedule such work to provide for a minimum of delays and interferences. Coordination shall be through the Contracting Officer.

## 3.4 EXISTING UTILITIES

### 3.4.1 Temporary Utilities

The Contractor shall be responsible for arranging for all temporary utilities required for the completion of work under this contract. No

## Locks 2 & 5 Stoplog Slot Installation

temporary hookups to existing lock facilities will be allowed unless stated otherwise in this specification.

### 3.4.2 Electricity

The Contractor will be provided with 115 volt, 20 amp and 480 volt, 60 amp electricity at no cost, however electricity provided to the Contractor shall be limited to that which is available without modification to the existing lock facilities. In addition, electricity provided shall be limited to that required for power tools. Use of electric heat is not permitted. The Contractor shall not reset tripped circuit breakers. Lock operations personnel will reset tripped circuit breakers as soon as possible after notification by the contractor.

### 3.5 DIVING

All diving shall be performed in accordance with the U.S. Army Corps of Engineers "Safety and Health Requirements Manual" EM 385-1-1, Section 30. Prior to submitting bids on this contract, Contractor's and their diving Subcontractor (if applicable), shall obtain copies of this manual, and plan their procedures and staffing requirement accordingly. The Corps of Engineers "Safety and Health Requirements Manual" EM 385-1-1 is available to prospective bidders for review at the U.S. Army Engineer District, St. Paul, MN. or as a pdf file with the plans and specifications for all solicitations issued by CD. To view pdf file on CD use pull down menu under the heading "NOTES".

-- End of Section --

# Locks 2 & 5 Stoplog Slot Installation

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## Locks 2 & 5 Stoplog Slot Installation

### SECTION 01140

#### WORK RESTRICTIONS

##### PART 1 GENERAL

###### 1.1 MEASUREMENT AND PAYMENT

The contractor shall be responsible for the work of this section, without any direct compensation being made other than the payment received for contract items.

###### 1.2 GROUNDS AND ROADWAYS

###### 1.2.1 Parking

Contractor parking will be permitted only in the area(s) shown, including the Contractor's staging area. No parking will be allowed on the grass. Contractor parking shall be coordinated with the Government.

###### 1.2.2 Site Access

Access to the work sites at Lock and Dam #2 and #5 are restrictive. The Contractor is advised to visit the site(s) prior to bidding on this project.

The Contractor's personnel will be allowed access to the Lock and Dam sites by use of the security gates. Access through the security gate shall be gained by intercom request to lock operations personnel.

The contractor shall be responsible for providing safe site access for both contract and Government Employees from the lock wall to the lock floor for work and inspection purposes.

###### 1.2.3 Snow Removal

The Contractor shall be responsible for snow removal in the Contractor's access, work, and parking areas.

###### 1.3 BLASTING

Blasting will not be permitted.

##### PART 2 PRODUCTS (NOT APPLICABLE)

##### PART 3 EXECUTION

###### 3.1 EXISTING UTILITIES

###### 3.1.1 General

The Contractor shall coordinate all utility relocation requirements and make payment to the utility companies for all services, fees, and permits required to relocate and reestablish service. The Contractor shall be responsible for all costs related to protecting, temporary rerouting,

## Locks 2 & 5 Stoplog Slot Installation

and/or permanent rerouting of existing utilities.

### 3.1.2 Buried Utilities

The approximate locations of known existing buried utilities are shown on the drawings to the extent of available information at the time the drawings were prepared. (In general, no service connections are shown.) Prior to commencing concrete removal activities, the Contractor shall accurately locate all such installations. In the event the Contractor damages any existing utility lines, report thereof shall be made immediately to the Contracting Officer. Repair of damaged utilities shall be in accordance with CLAUSE 52.236-9 PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS.

### 3.1.3 Interruption of Services

Utility services shall not be interrupted except for brief periods to facilitate cut-ins. The Contractor shall provide temporary service and shall relocate existing utilities as required to construct the work shown and insure uninterrupted service. If interruption of services is unavoidable, the Contractor shall request approval in writing at least 30 calendar days prior to the proposed interruption. This submittal shall fully describe all details of proposed interruption and the reasons why alternatives are not feasible. The Contractor shall further coordinate with the owner of the utility and notify affected consumers at least 10 calendar days in advance of interruption of services. The Contracting Officer will not in general approve proposals which require interruption of services for more than 4 continuous hours.

### 3.2 Work Hours

If the Contractor has a need to perform an operation which requires the presence of Government personnel to operate gate machinery, valve machinery or other items, the operation must be performed during the normal Government working hours of 8:00 AM thru 3:30 PM, Monday thru Friday. In the event the tainter valves are operable, the Contractor shall request a change in setting a minimum of 24 hours prior to the needed change. The Contractor may perform all remaining work under this contract during unrestricted hours provided local ordinances are not violated.

### 3.3 FLOATING PLANT

#### 3.3.1 Equipment and Personnel

Floating plant and personnel shall comply with the applicable U.S. Coast Guard regulations and licensing requirements. Floating plant equipment shall meet the applicable requirements of 46 CFR Chapter 1 Subchapter E and 46 CFR 44.05-10.

#### 3.3.2 Navigable Waters

Floating vessels operating on the Mississippi River and its tributaries must be operated in accordance with 33 CFR 207.3, "Ohio River, Mississippi River above Cairo, Ill., and their tributaries; use, administration, and navigation."

#### 3.3.3 Sewage and Bilge Water Disposal

The Contractor's methods for disposal of sanitary sewage, and bilge water

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accumulated aboard floating plant, shall meet applicable local, state, and federal requirements.

### 3.4 LOCK AND DAM OPERATION

All work within the lock chamber(s) shall be accomplished during the non-navigation season of 1 December 2004 thru 1 March 2005. The Government will notify the Contractor if navigation closes prior to December 1, 2004 and the lock is available for the contractor's use. Preparatory work prior to lock closure is subject to the requirements of Section 01000: GENERAL, Paragraph: SCHEDULING. For information purposes the past navigation seasons are identified in Section 00830: ATTACHMENTS.

Contract work shall not interfere with the operation of the dam. The lock shall be non-operational from notification by the lockmaster or 1 December, 2004 through 1 March, 2005. Facilities shall be maintained for operating personnel so they can perform their normal functions. The Contractor shall designate a coordinator to assure that the construction work is coordinated with the operation of the lock and dam.

#### 3.4.1 Winter Lock Operation

Typically flow is allowed to pass through the upstream tainter valves to prevent solid ice formation in the lock chamber(s). Typical winter flow rates through the tainter valves are 350-500 cfs at Lock 2 and 900-1000 cfs at Lock 5. Once set, the tainter valves typically freeze into place and cannot be moved. The contractor can request closure of the tainter valves to facilitate cofferdam installation. If the contractor requests closure of the tainter valves, the contractor shall be responsible for providing heat and insulated covers or other means as required to unthaw the tainter valves so they are operational and shall submit a deicing plan to the Contracting Officer for approval. Corps of Engineers employees shall not be responsible for unthawing or freeing tainter valves that are not operational due to ice effects, regardless if the tainter valves are opened or closed. The contractor shall continue to provide heat and insulating covers as necessary throughout the project to insure the tainter valves do not become frozen in the closed or reduced flow position. In the event contractor provisions are not adequate and the tainter valves freeze in the closed or reduced flow position, the contractor shall free the tainter valves prior to the start of navigation. All tainter valve operation shall be made by Corps Lock personnel. Contractor requests for tainter valve operation shall be made through the Contracting Officer and subject to the limitations listed above and in the paragraph: Work Hours.

##### 3.4.1.1 Maximum Flow and Cofferdam Design

The Corps does not guarantee flow rates will be similar to the typical flow rates mentioned above, and maximum flow rates may be greater. The contractor shall bear full responsibility for cofferdam design and in determining design criteria for all cofferdams, including flow considerations. The contractor is solely responsible for all costs associated with dewatering including, but not limited to all costs associated with cofferdam construction and with cofferdam failure, should failure occur. Cofferdam design shall be according to section 02240: COFFERDAM.

##### 3.4.2 Ice Conditions

Ice conditions in and around the locks will be impacted by the weather and



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the amount of flow passing through the tainter valves. The Contractor shall develop a plan and be responsible for ice management and removal as needed to protect lock appurtenances and accomplish all construction activities. These costs shall be included in the appropriate bid item and shall not be justification for additional reimbursement by the Government. The Contractor shall incorporate ice and flow considerations into design of all cofferdams according to section 02240: COFFERDAMS.

### 3.4.3 Work Restrictions Near Flammable Cargo

When tows enter the lock carrying flammable cargo, the Contractor shall discontinue use of welders, torches, electric tools, and any other source of flame or sparks. The duration and vicinity of these restrictions shall be directed by the Contracting Officer.

### 3.5 LOCK LOAD RESTRICTIONS

a. Lock Walls. The Contractor shall adhere to the following weight limitations in the area of the lockwall:

Lock 2: No crane loads shall be within 25 ft. of the lock Wall, as measured from the back of the wall. Maximum 40 tons between 25 and 50 ft. of the back of the lock Wall, and maximum 150 tons beyond 50 ft. from the back face of the lock Wall. There is limited access on the Lock side of the control station.

Lock 5: Maximum 40 tons within 50 ft. of the lock chamber face of the lockwall and maximum 150 tons beyond 50 ft. from the lock chamber face of the lockwall.

b. Electrical Trenches. All wheel loads shall require bridging over the electrical trenches. This bridging shall span the electrical trenches so that no additional load is imposed on the electrical trenches.

c. Protection of Existing Grating. Protection shall include all grating that is not replaced under this contract. This protection does not relieve the Contractor of the responsibility for limiting loads on the miter gate to prevent damage to the walkway support system.

d. Miter Gates. The Contractor shall not transport any loads over the miter gates or lock walls that will damage the grating or supports. The following requirements shall apply to transporting materials or supplies across the top of lock walls or miter gates:

1. Maximum loading (gross weight) shall not exceed 1,500 pounds with a maximum wheel load of 700 pounds or loadings in excess of 80 pounds per square foot.

2. All grating shall be covered by the Contractor with 3/4 inch exterior grade plywood.

-- End of Section --

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# Locks 2 & 5 Stoplog Slot Installation

## SECTION 01270

### MEASUREMENT AND PAYMENT

#### PART 1 GENERAL

##### 1.1 COMPENSATION

The payment provided for in the contract shall constitute full compensation for furnishing all materials and for performing all work under the contract in a complete and acceptable manner. The contract work shall include providing plant, equipment, tools, supplies, labor, supervision, incidental materials, quality control, environmental protection, and meeting safety requirements, and for performing all work required for which separate payment is not otherwise provided. Compensation for all work shown, specified, or essential to completion of the project (whether or not the specific material or operation is indicated) shall be included on the bidding schedule. The payment provided for in the contract includes compensation for all risk, loss, damage, and expense arising out of the nature of the work or its prosecution, subject to conditions of the contract. Payment for each contract line item will constitute full compensation for furnishing the materials and constructing the work complete in place as specified.

##### 1.2 APPROVAL OF MATERIALS OR ALTERNATES

Requests for approval of materials and products, or substitutes thereof, will not be considered prior to award of the contract.

##### 1.3 LUMP SUM PAYMENT ITEMS

Payment items for the work of this contract for which contract lump sum payments will be made are listed in the BIDDING SCHEDULE and described below. All costs for items of work, which are not specifically mentioned to be included in a particular lump sum or unit price payment item, shall be included in the listed lump sum item most closely associated with the work involved. The lump sum price and payment made for each item listed shall constitute full compensation for furnishing all plant, labor, materials, and equipment, and performing any associated Contractor quality control, environmental protection, meeting safety requirements, tests and reports, and for performing all work required for which separate payment is not otherwise provided.

##### 1.4 UPSTREAM STOPLOG RECESSES

###### 1.4.1 Demolition

Payment for demolition of concrete and appurtenant items, regardless of demolition method, associated with the stoplog recesses in the upstream main lock chamber walls is included in the price bid for contract Bid Item sum for Upstream Stoplog Recesses. This payment item includes work on both the landwall and the intermediate wall.

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### 1.4.2 Recess and Recess Cover Fabrication and Installation

Payment for fabrication and installation of the stoplog recess and recess cover in the upstream main lock chamber walls is included in the price bid for contract Bid Item sum for Upstream Stoplog Recesses. This payment item includes work on both the landwall and the intermediate wall.

### 1.4.3 Concrete Restoration

Payment for concrete restoration associated with the stoplog recesses in the upstream main lock chamber walls is included in the price bid for contract Bid Item sum for Upstream Stoplog Recesses, which price and payment shall constitute full compensation for the work associated with formwork, fabrication and placement of reinforcing steel bars and dowels, expansion, contraction and construction joints, and cast-in-place concrete. This payment item includes work on both the landwall and the intermediate wall.

### 1.4.4 Removal and Installation on Lockwall Appurtenances

Payment for removal and installation of lockwall appurtenances associated with the stoplog recesses in the upstream main lock chamber walls is included in the price bid for contract Bid Item sum for Upstream Stoplog Recesses, which price and payment shall constitute full compensation for the work associated with removal and reinstallation of tow haulage sheave and checkpost; removal, fabrication and installation of lockwall armor and edge protection; and removal and reinstallation of handrail. This payment item includes work on both the landwall and the intermediate wall.

## 1.5 DOWNSTREAM STOPLOG RECESSES

### 1.5.1 Demolition

Payment for demolition of concrete and appurtenant items, regardless of demolition method, associated with the stoplog recesses in the downstream main lock chamber walls is included in the price bid for contract Bid Item sum for Downstream Stoplog Recesses. This payment item includes work on both the landwall and the intermediate wall.

### 1.5.2 Recess and Recess Cover Fabrication and Installation

Payment for fabrication and installation of the stoplog recess and recess cover in the downstream main lock chamber walls is included in the price bid for contract Bid Item sum for Downstream Stoplog Recesses. This payment item includes work on both the landwall and the intermediate wall.

### 1.5.3 Concrete Restoration

Payment for concrete restoration associated with the stoplog recesses in the downstream main lock chamber walls is included in the price bid for contract Bid Item sum for Downstream Stoplog Recesses, which price and payment shall constitute full compensation for the work associated with formwork, fabrication and placement of reinforcing steel bars and dowels, expansion, contraction and construction joints, and cast-in-place concrete. This payment item includes work on both the landwall and the intermediate wall.

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### 1.5.4 Removal and Installation on Lockwall Appurtenances

Payment for removal and installation of lockwall appurtenances associated with the stoplog recesses in the downstream main lock chamber walls is included in the price bid for contract Bid Item sum for Downstream Stoplog Recesses, which price and payment shall constitute full compensation for the work associated with removal and reinstallation of tow haulage sheave and checkpost, removal, fabrication and installation of lockwall armor and edge protection, and removal and reinstallation of handrail. This payment item includes work on both the landwall and the intermediate wall.

### 1.5.5 Miter Gate Recess and Anchorage Installation

Payment for miter gate recess and anchorage installation work associated with the stoplog recesses in the downstream main lock chamber walls is included in the price bid for contract Bid Item sum for Downstream Stoplog Recesses, which price and payment shall constitute full compensation for the work associated with fabrication and installation of the miter gate recess embedded metals and cover plates, and the installation of the miter gate anchorages. This payment item includes work on both the landwall and the intermediate wall.

### 1.6 COFFERDAMS

Payment for design, fabrication, installation, dewatering, rewatering, maintenance, removal and disposal of the cofferdams required for construction of the upstream and downstream stoplog recesses in the main lock chamber walls is included in the price bid for contract Bid Item sum for Cofferdams, which price and payment shall constitute full compensation for the work associated with the cofferdam discussed in SECTION 02240: COFFERDAMS. Removal and salvage for the Government of any existing bubbler piping and piping accessories required for cofferdam installation shall be included in this payment item. This payment item includes work on both the landwall and intermediate wall.

### 1.7 TEMPORARY SUPPORT AND PROTECTION OF MITER GATES DURING CONSTRUCTION

Payment for temporary support and protection of miter gates during construction is included in the price bid for contract Bid Item sum for Temporary Support and Protection of Miter Gates During Construction, which price and payment shall constitute full compensation for the work described in SECTION 02490 - TEMPORARY SUPPORT AND PROTECTION OF MITER GATES DURING CONSTRUCTION. This payment item includes work on both the landwall and the intermediate wall.

### 1.8 MITER GATE ANCHORAGE ASSEMBLY FABRICATION

#### 1.8.1 Miter Gate Anchorage and Anchor Bar Assembly Fabrication

Payment for fabrication of the new miter gate anchorages, anchor bars and related parts for the lower miter gate anchor systems is included in the price bid for contract Bid Item sum for MITER GATE ANCHORAGE ASSEMBLY FABRICATION.

### 1.9 ABATEMENT WORK

Payment for all abatement work is included in the price bid for contract Bid Item sum for Abatement Work, which price and payment shall constitute full compensation for the work described in SECTION 09965 related to lead

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based paint exposure and disposal.

### 1.10 BONDS (Performance and Payment)

Payment will be made for costs associated with securing all bonds required of this contract. Bonds will be paid for on a lump sum basis in accordance with FAR 52.232-5.

### PART 2 PRODUCTS (Not Applicable)

### PART 3 EXECUTION (Not Applicable)

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SECTION 01312

QUALITY CONTROL SYSTEM (QCS)

PART 1 GENERAL

1.1 GENERAL

The Government will use the Resident Management System for Windows (RMS) to assist in its monitoring and administration of this contract. The Contractor shall use the Government-furnished Construction Contractor Module of RMS, referred to as QCS, to record, maintain, and submit various information throughout the contract period. This joint Government-Contractor use of RMS and QCS will facilitate electronic exchange of information and overall management of the contract. QCS provides the means for the Contractor to input, track, and electronically share information with the Government in the following areas:

- Administration
- Finances
- Quality Control
- Submittal Monitoring
- Scheduling
- Import/Export of Data

For ease and speed of communications, both Government and Contractor will, to the maximum extent feasible, exchange correspondence and other documents in electronic format.

Correspondence, pay requests and other documents comprising the official contract record shall also be provided in paper format, with signatures and dates where necessary. Paper documents will govern, in the event of discrepancy with the electronic version.

Particular attention is directed to other clauses which have a direct relationship to the reporting to be accomplished through QCS:

- 52.236-15 SCHEDULES FOR CONSTRUCTION CONTRACTS,
- 52.232-5 PAYMENTS UNDER FIRM FIXED PRICE CONSTRUCTION CONTRACTS,
- Section 01330 SUBMITTAL PROCEDURES,
- Section 01451 CONTRACTOR QUALITY CONTROL

There is no separate payment for establishing and maintaining the QCS database; all costs associated therewith shall be included in the contract pricing for the work.

1.2 QCS SOFTWARE

QCS is a Windows-based program that can be run on a stand-alone personal computer or on a network. The Government will make available the QCS software to the Contractor after award of the construction contract. Prior to the Pre-Construction Conference, the Contractor shall be responsible to download, install and use the latest version of the QCS software from the Government's RMS Internet Website. Upon specific justification and request



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by the Contractor, the Government can provide QCS on 3-1/2 inch high-density diskettes or CD-ROM. Any program updates of QCS will be made available to the Contractor via the Government RMS Website as they become available.

### 1.3 SYSTEM REQUIREMENTS

The following listed hardware and software is the minimum system configuration that the Contractor shall have to run QCS:

#### **Hardware**

IBM-compatible PC with 200 MHz Pentium or higher processor

32+ MB RAM

4 GB hard drive disk space for sole use by the QCS system

3 1/2 inch high-density floppy drive

Compact disk (CD) Reader

Color monitor

Laser printer compatible with HP LaserJet III or better, with minimum 4 MB installed memory.

Connection to the Internet, minimum 28 kbps

#### **Software**

MS Windows 95 or newer version operating system (MS Windows NT 4.0 or newer is recommended)

Word Processing software compatible with MS Word 97 or newer

Internet browser

The Contractor's computer system shall be protected by virus protection software that is regularly upgraded with all issued manufacturer's updates throughout the life of the contract.

Electronic mail (E-mail) compatible with MS Outlook

### 1.4 RELATED INFORMATION

#### 1.4.1 QCS User Guide

After contract award, the Contractor shall download instructions for the installation and use of QCS from the Government RMS Internet Website; the Contractor can obtain the current address from the Government. In case of justifiable difficulties, the Government will provide the Contractor with a CD-ROM containing these instructions.

#### 1.4.2 Contractor Quality Control(CQC) Training

The use of QCS will be discussed at the Contractor's CQC System Manager training classes (Reference Section 01451 CONTRACTOR QUALITY CONTROL,

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PARAGRAPH: QUALITY CONTROL ORGANIZATION).

### 1.5 CONTRACT DATABASE

Prior to the pre-construction conference, the Government shall provide the Contractor with basic contract award data to use for QCS. The Government will provide data updates to the Contractor as needed. These updates will generally consist of submittal reviews, correspondence status, QA comments, and other administrative and QA data.

### 1.6 DATABASE MAINTENANCE

The Contractor shall establish, maintain, and update data for the contract in the QCS database throughout the duration of the contract. The Contractor shall establish and maintain the QCS database at the Contractor's site office. Data updates to the Government shall be submitted with file attachments, e.g., daily reports, schedule updates, payment requests. The QCS database typically shall include current data on the following items:

#### 1.6.1 Administration

##### 1.6.1.1 Contractor Information

The database shall contain the Contractor's name, address, telephone numbers, and management staff. The Contractor shall deliver Contractor administrative data in electronic format prior to the preconstruction conference.

##### 1.6.1.2 Subcontractor Information

The database shall contain the name, trade, address, phone numbers, and other required information for all subcontractors. A subcontractor must be listed separately for each trade to be performed. Each subcontractor/trade shall be assigned a unique Responsibility Code, provided in QCS. The Contractor shall deliver subcontractor administrative data in electronic format prior to the preconstruction conference.

##### 1.6.1.3 Correspondence

All Contractor correspondence to the Government shall be identified with a serial number. Correspondence initiated by the Contractor's site office shall be prefixed with "S". Letters initiated by the Contractor's home (main) office shall be prefixed with "H". Letters shall be numbered starting from 0001. (e.g., H-0001 or S-0001). The Government's letters to the Contractor will be prefixed with "C".

##### 1.6.1.4 Equipment

The Contractor's QCS database shall contain a current list of equipment planned for use or being used on the jobsite, including the most recent and planned equipment inspection dates.

##### 1.6.1.5 Management Reporting

QCS includes a number of reports that Contractor management can use to track the status of the project. The value of these reports is reflective of the quality of the data input, and is maintained in the various sections of QCS. Among these reports are: Progress Payment Request worksheet, QA/QC

## Locks 2 & 5 Stoplog Slot Installation

comments, Submittal Register Status, Three-Phase Inspection checklists.

### 1.6.2 Finances

#### 1.6.2.1 Pay Activity Data

The QCS database shall include a list of pay activities that the Contractor shall develop in conjunction with the construction schedule. The sum of all pay activities shall be equal to the total contract amount, including modifications. Pay activities shall be grouped by Contract Line Item Number (CLIN), and the sum of the activities shall equal the amount of each CLIN. The total of all CLINs equals the Contract Amount.

#### 1.6.2.2 Payment Requests

All progress payment requests shall be prepared using QCS. The Contractor shall complete the payment request worksheet and include it with the payment request. The work completed under the contract, measured as percent or as specific quantities, shall be updated at least monthly. After the update, the Contractor shall generate a payment request report using QCS. The Contractor shall submit the payment requests with supporting data with file attachment(s). A signed paper copy of the approved payment request is also required, which shall govern in the event of discrepancy with the electronic version.

### 1.6.3 Quality Control (QC)

QCS provides a means to track implementation of the 3-phase QC System, prepare daily reports, identify and track deficiencies, document progress of work, and support other contractor QC requirements. The Contractor shall maintain this data on a daily basis. Entered data will automatically output to the QCS generated daily report. The Contractor shall provide the Government a Contractor Quality Control (CQC) Plan within the time required in Section 01451 CONTRACTOR QUALITY CONTROL. Within seven calendar days of Government acceptance, the Contractor shall submit a data diskette or CD-ROM reflecting the information contained in the accepted CQC Plan: schedule, pay activities, features of work, submittal register, QC requirements, and equipment list.

#### 1.6.3.1 Daily Contractor Quality Control (CQC) Reports.

QCS includes the means to produce the Daily CQC Report. The Contractor may use other formats to record basic QC data. However, the Daily CQC Report generated by QCS shall be the Contractor's official report. Data from any supplemental reports by the Contractor shall be summarized and consolidated onto the QCS-generated Daily CQC Report. Daily CQC Reports shall be submitted as required by Section 01451 CONTRACTOR QUALITY CONTROL. Reports shall be submitted electronically to the Government using E-mail or diskette within 24 hours after the date covered by the report. Use of either mode of submittal shall be coordinated with the Government representative. The Contractor shall also provide the Government a signed, printed copy of the daily CQC report.

#### 1.6.3.2 Deficiency Tracking.

The Contractor shall use QCS to track deficiencies. Deficiencies identified by the Contractor will be numerically tracked using QC punch list items. The Contractor shall maintain a current log of its QC punch list items in the QCS database. The Government will log the deficiencies

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it has identified using its QA punch list items. The Government's QA punch list items will be included in its export file to the Contractor. The Contractor shall regularly update the correction status of both QC and QA punch list items.

### 1.6.3.3 Three-Phase Control Meetings

The Contractor shall maintain scheduled and actual dates and times of preparatory and initial control meetings in QCS.

### 1.6.3.4 Accident/Safety Tracking.

The Government will issue safety comments, directions, or guidance whenever safety deficiencies are observed. The Government's safety comments will be included in its export file to the Contractor. The Contractor shall regularly update the correction status of the safety comments. In addition, the Contractor shall utilize QCS to advise the Government of any accidents occurring on the jobsite. This brief supplemental entry is not to be considered as a substitute for completion of mandatory reports, e.g., ENG Form 3394 and OSHA Form 200.

### 1.6.3.5 Features of Work

The Contractor shall include a complete list of the features of work in the QCS database. A feature of work may be associated with multiple pay activities. However, each pay activity (see subparagraph "Pay Activity Data" of paragraph "Finances") will only be linked to a single feature of work.

### 1.6.3.6 QC Requirements

The Contractor shall develop and maintain a complete list of QC testing, transferred and installed property, and user training requirements in QCS. The Contractor shall update all data on these QC requirements as work progresses, and shall promptly provide this information to the Government via QCS.

### 1.6.4 Submittal Management

The Government will provide the initial submittal register, ENG Form 4288, SUBMITTAL REGISTER, in electronic format. Thereafter, the Contractor shall maintain a complete list of all submittals, including completion of all data columns. Dates on which submittals are received and returned by the Government will be included in its export file to the Contractor. The Contractor shall use QCS to track and transmit all submittals. ENG Form 4025, submittal transmittal form, and the submittal register update, ENG Form 4288, shall be produced using QCS. RMS will be used to update, store and exchange submittal registers and transmittals, but will not be used for storage of actual submittals.

### 1.6.5 Schedule

The Contractor shall develop a construction schedule consisting of pay activities, in accordance with Contract Clause 52.236-15 SCHEDULES FOR CONSTRUCTION CONTRACTS". This schedule shall be input and maintained in the RMS-QC database. The updated schedule data shall be included with each pay request submitted by the Contractor.

#### 1.6.6 Import/Export of Data

QCS includes the ability to export Contractor data to the Government and to import submittal register and other Government-provided data, and schedule data.

#### 1.7 IMPLEMENTATION

Contractor use of QCS as described in the preceding paragraphs is mandatory. The Contractor shall ensure that sufficient resources are available to maintain its QCS database, and to provide the Government with regular database updates. QCS shall be an integral part of the Contractor's management of quality control.

#### 1.8 DATA SUBMISSION

The Contractor shall submit updates, payment requests, correspondence and other data in the format directed by the Contracting Officer. Submission formats available include diskettes, CD-ROM, or E-mail. Generally, E-mail is preferred for submissions from the Contractor's home office, and diskette or CD-ROM is preferred for submissions from the contractor's field office.

Data on the disks or CDs shall be exported using the QCS built-in export function. If used, diskettes and CD-ROMs will be submitted in accordance with the following:

##### 1.8.1 File Medium

The Contractor shall submit required data on 3-1/2 inch double-sided high-density diskettes formatted to hold 1.44 MB of data, capable of running under Microsoft Windows 95 or newer. Alternatively, CD-ROMs may be used. They shall conform to industry standards used in the United States. All data shall be provided in English.

##### 1.8.2 Disk or CD-ROM Labels

The Contractor shall affix a permanent exterior label to each diskette and CD-ROM submitted. The label shall indicate in English, the QCS file name, full contract number, contract name, project location, data date, name and telephone number of person responsible for the data.

##### 1.8.3 File Names

The Government will provide the file names to be used by the Contractor with the QCS software.

#### 1.9 MONTHLY COORDINATION MEETING

The Contractor shall update the QCS database each workday. At least monthly, the Contractor shall generate and submit an export file to the Government with schedule update and progress payment request. As required in Contract Clause "Payments", at least one week prior to submittal, the Contractor shall meet with the Government representative to review the planned progress payment data submission for errors and omissions. The Contractor shall make all required corrections prior to Government acceptance of the export file and progress payment request. Payment requests accompanied by incomplete or incorrect data submittals will be returned. The Government will not process progress payments until an

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acceptable QCS export file is received.

### 1.10 NOTIFICATION OF NONCOMPLIANCE

The Contracting Officer will notify the Contractor of any detected noncompliance with the requirements of this specification. The Contractor shall take immediate corrective action after receipt of such notice. Such notice, when delivered to the Contractor at the work site, shall be deemed sufficient for the purpose of notification.

-- End of Section --

Locks 2 & 5 Stoplog Slot Installation

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# Locks 2 & 5 Stoplog Slot Installation

## SECTION 01330

### SUBMITTAL PROCEDURES

#### PART 1 GENERAL

##### 1.1 SUBMITTAL IDENTIFICATION

Submittals required are identified by SD numbers and titles as follows:

- SD-01 Preconstruction Submittals
- SD-02 Shop Drawings
- SD-03 Product Data
- SD-04 Samples
- SD-05 Design Data
- SD-06 Test Reports
- SD-07 Certificates
- SD-08 Manufacturer's Instructions
- SD-11 Closeout Submittals

##### 1.2 SUBMITTAL CLASSIFICATION

Submittals are classified as follows:

###### 1.2.1 Government Approved

Governmental approval is required for extensions of design, critical materials, deviations, equipment whose compatibility with the entire system must be checked, and other items as designated by the Contracting Officer. Within the terms of the Contract Clause entitled "Specifications and Drawings for Construction," they are considered to be "shop drawings."

###### 1.2.2 Information Only

All submittals not requiring Government approval will be for information only. They are not considered to be "shop drawings" within the terms of the Contract Clause referred to above.

##### 1.3 APPROVED SUBMITTALS

The Contracting Officer's approval of submittals shall not be construed as a complete check, but will indicate only that the general method of construction, materials, detailing and other information are satisfactory. Approval will not relieve the Contractor of the responsibility for any error which may exist, as the Contractor under the Contractor Quality Control (CQC) requirements of this contract is responsible for dimensions, the design of adequate connections and details, and the satisfactory



## Locks 2 & 5 Stoplog Slot Installation

construction of all work. After submittals have been approved by the Contracting Officer, no resubmittal for the purpose of substituting materials or equipment will be considered unless accompanied by an explanation of why a substitution is necessary.

### 1.4 DISAPPROVED SUBMITTALS

The Contractor shall make all corrections required by the Contracting Officer and promptly furnish a corrected submittal in the form and number of copies specified for the initial submittal. If the Contractor considers any correction indicated on the submittals to constitute a change to the contract, a notice in accordance with the Contract Clause "Changes" shall be given promptly to the Contracting Officer.

### 1.5 WITHHOLDING OF PAYMENT

Payment for materials incorporated in the work will not be made if required approvals have not been obtained.

### 1.6 MEASUREMENT AND PAYMENT

The work of this section will not be measured for payment. The Contractor shall be responsible for the work of this section, without any direct compensation being made other than the payment received for contract items.

## PART 2 PRODUCTS (Not Applicable)

## PART 3 EXECUTION

### 3.1 GENERAL

The Contractor shall make submittals as required by the specifications. The Contracting Officer may request submittals in addition to those specified when deemed necessary to adequately describe the work covered in the respective sections. Units of weights and measures used on all submittals shall be the same as those used in the contract drawings. Each submittal shall be complete and in sufficient detail to allow ready determination of compliance with contract requirements. Prior to submittal, all items shall be checked and approved by the Contractor's Quality Control (CQC) System Manager and each item shall be stamped, signed, and dated by the CQC System Manager indicating action taken. Proposed deviations from the contract requirements shall be clearly identified. Submittals shall include items such as: Contractor's, manufacturer's, or fabricator's drawings; descriptive literature including (but not limited to) catalog cuts, diagrams, operating charts or curves; test reports; test cylinders; samples; O&M manuals (including parts list); certifications; warranties; and other such required submittals. Submittals requiring Government approval shall be scheduled and made prior to the acquisition of the material or equipment covered thereby. Samples remaining upon completion of the work shall be picked up and disposed of in accordance with manufacturer's Material Safety Data Sheets (MSDS) and in compliance with existing laws and regulations.

### 3.2 SUBMITTAL REGISTER (ENG FORM 4288)

At the end of this section is a submittal (ENG Form 4288) showing items of equipment and materials for which submittals are required by the specifications; this list may not be all inclusive and additional submittals may be required. The Contractor shall maintain a submittal

## Locks 2 & 5 Stoplog Slot Installation

register for the project in accordance with Section 01312 QUALITY CONTROL SYSTEM (QCS).

### 3.3 SCHEDULING

Submittals covering component items forming a system or items that are interrelated shall be scheduled to be coordinated and submitted concurrently. Certifications to be submitted with the pertinent drawings shall be so scheduled. Adequate time (a minimum of 30 calendar days exclusive of mailing time) shall be allowed and shown on the register for review and approval. No delay damages or time extensions will be allowed for time lost in late submittals. The submittal register shall provide for a reasonable timely distribution of shop drawings as they are prepared (particularly within a specific discipline, i.e.: structural, mechanical).

### 3.4 TRANSMITTAL FORM (ENG FORM 4025)

The sample transmittal form (ENG Form 4025) attached to this section shall be used for submitting both Government approved and information only submittals in accordance with the instructions on the reverse side of the form. These forms are included in the CQS software. Hardcopies will be furnished to the Contractor if the CQS software is not used on this contract. This form shall be properly completed by filling out all the heading blank spaces and identifying each item submitted. Special care shall be exercised to ensure proper listing of the specification paragraph and/or sheet number of the contract drawings pertinent to the data submitted for each item.

### 3.5 SUBMITTAL PROCEDURE

#### 3.5.1 Submittal Copies

The Contractor shall submit 6 hardcopies of each submittal (both government approved and for information only), or 1 hardcopy and 1 electronic copy, unless otherwise indicated. Each transmittal shall address only one submittal item. Transmittals returned for resubmission shall be resubmitted in their entirety. When approved by the Contracting Officer, routine test reports and delivery tickets may be submitted with daily quality control reports in place of following submittal procedures under this section.

#### 3.5.2 Schedule

Shop drawings shall be submitted with ample time to secure Government approval prior to the time the items covered thereby are to be delivered to the site. Additional time should be allowed for possible resubmittal. Materials fabricated or delivered without Government approval of the shop drawing will be subject to rejection. All submittals shall be made prior to commencement of applicable work, and allow adequate time for government review acceptable to the Contracting Officer.

#### 3.5.3 Shop Drawings

Shop drawings shall be reproductions on high quality paper with clear legible print. Drawings shall generally be bordered a minimum of one inch and trimmed to neat lines. Shop drawing quality will be subject to approval. Each shop drawing, including catalog data, shall be identified with a title block including the name of the Contractor, contract number, name and location of project, and name of the item of work or structure to

## Locks 2 & 5 Stoplog Slot Installation

which the shop drawing applies. Catalog data, including specifications and full descriptive matter, may be submitted as shop drawings. Catalog data must be supplemented as necessary to include all pertinent data to verify conformance to the contract documents. When catalog data includes non applicable data, the applicable data shall be clearly indicated.

### 3.5.4 Warranties

Any items that are submitted for review or approval of the Contracting officer should include a copy of the manufacturer's standard warranty if one is available.

### 3.5.5 Deviations

For submittals which include proposed deviations requested by the Contractor, the column "variation" of ENG Form 4025 shall be checked. The Contractor shall set forth in writing the reason for any deviations and annotate such deviations on the submittal. The Government reserves the right to rescind inadvertent approval of submittals containing unnoted deviations.

### 3.6 CONTROL OF SUBMITTALS

The Contractor shall carefully control its procurement operations to ensure that each individual submittal is made on or before the Contractor scheduled submittal date shown on the approved "Submittal Register."

### 3.7 GOVERNMENT APPROVED SUBMITTALS

Upon completion of review of submittals requiring Government approval, the submittals will be identified as having received approval by being so stamped and dated. Five copies of the submittal will be retained by the Contracting Officer and 1 copy of the submittal will be returned to the Contractor.

### 3.8 INFORMATION ONLY SUBMITTALS

Normally submittals for information only will not be returned. Approval of the Contracting Officer is not required on information only submittals. The Government reserves the right to require the Contractor to resubmit any item found not to comply with the contract. This does not relieve the Contractor from the obligation to furnish material conforming to the plans and specifications; will not prevent the Contracting Officer from requiring removal and replacement of nonconforming material incorporated in the work; and does not relieve the Contractor of the requirement to furnish samples for testing by the Government laboratory or for check testing by the Government in those instances where the technical specifications so prescribe.

### 3.9 STAMPS

Stamps used by the Contractor on the submittal data to certify that the submittal meets contract requirements shall be similar to the following:

Locks 2 & 5 Stoplog Slot Installation

CONTRACTOR	
(Firm Name)	
_____	Approved
_____ Approved with corrections as noted on submittal data and/or attached sheets(s).	
SIGNATURE:	_____
TITLE:	_____
DATE:	_____

-- End of Section --



## INSTRUCTIONS

1. Section I will be initiated by the Contractor in the required number of copies.
2. Each transmittal shall be numbered consecutively in the space provided for "Transmittal No.". This number, in addition to the contract number, will form a serial number for identifying each submittal. For new submittals or resubmittals mark the appropriate box; on resubmittals, insert transmittal number of last submission as well as the new submittal number.
3. The "Item No." will be the same "Item No." as indicated on ENG FORM 4288-R for each entry on this form.
4. Submittals requiring expeditious handling will be submitted on a separate form.
5. Separate transmittal form will be used for submittals under separate sections of the specifications.
6. A check shall be placed in the "Variation" column when a submittal is not in accordance with the plans and specifications--also, a written statement to that effect shall be included in the space provided for "Remarks".
7. Form is self-transmittal, letter of transmittal is not required.
8. When a sample of material or Manufacturer's Certificate of Compliance is transmitted, indicate "Sample" or "Certificate" in column c, Section I.
9. U.S. Army Corps of Engineers approving authority will assign action codes as indicated below in space provided in Section I, column i to each item submitted. In addition they will ensure enclosures are indicated and attached to the form prior to return to the contractor. The Contractor will assign action codes as indicated below in Section I, column g, to each item submitted.

### THE FOLLOWING ACTION CODES ARE GIVEN TO ITEMS SUBMITTED

- |   |   |
|---|---|
| A -- Approved as submitted.   | E -- Disapproved (See attached).  |
| B -- Approved, except as noted on drawings.   | F -- Receipt acknowledged.  |
| C -- Approved, except as noted on drawings.<br>Refer to attached sheet resubmission required. | FX -- Receipt acknowledged, does not comply<br>as noted with contract requirements. |
| D -- Will be returned by separate correspondence.   | G -- Other ( <i>Specify</i> )   |

10. Approval of items does not relieve the contractor from complying with all the requirements of the contract plans and specifications.

# SUBMITTAL REGISTER

CONTRACT NO.  
W912ES-04-R-0007

TITLE AND LOCATION Locks 2 & 5 Stoplog Slot Installation						CONTRACTOR											
ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAGRAPH	CLASSIFICATION GOVT OR A/E REVIEWER	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION		DATE FWD TO APPR AUTH/	APPROVING AUTHORITY				MAILED TO CONTR/ DATE RCD FRM APPR AUTH	REMARKS
						SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION CODE	DATE OF ACTION	DATE RCD FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER	ACTION CODE	DATE OF ACTION		
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
		01355	SD-01 Preconstruction Submittals														
			Environmental Protection Plan	1.7	G ENV												
		01500	SD-02 Shop Drawings														
			Site Plan														
		01780	SD-11 Closeout Submittals														
			As-Built Drawings		G GEN												
		02100	SD-01 Preconstruction Submittals														
			Work Plan		G STR												
			Equipment		G STR												
			Experience		G STR												
		02220	SD-01 Preconstruction Submittals														
			Work Plan		G STR												
			Lead Hazard Control Plan														
			SD-07 Certificates														
			Hazardous Waste Manifest		G CO												
		02240	SD-02 Shop Drawings														
			Design Drawings		G STR												
			SD-05 Design Data														
			Dewatering System		G STR												
		03101	SD-02 Shop Drawings														
			Shop Drawings	1.5	G STR												
			SD-03 Product Data														
			Materials	2.1	G STR												
			SD-05 Design Data														
			Test Reports														
		03151	SD-01 Preconstruction Submittals														

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CONTRACT NO.  
W912ES-04-R-0007

TITLE AND LOCATION Locks 2 & 5 Stoplog Slot Installation						CONTRACTOR											
ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAGRAPH	GOVT CLASSIFICATION OR REFERENCE REVIEW NUMBER	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION		DATE FWD TO APPR AUTH/  DATE RCD FROM CONTR	APPROVING AUTHORITY				MAILED TO CONTR/  DATE RCD FRM APPR AUTH	REMARKS
						SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION CODE	DATE OF ACTION		DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER	ACTION CODE	DATE OF ACTION		
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
		03151	Bond Breaker Materials		G COR												
			SD-04 Samples														
			Field Molded Sealants and Primer	2.1.2.1													
			SD-06 Test Reports														
			Premolded Expansion Joint Filler Strips	2.1.1	G STR												
			Field Molded Joint Sealants		G STR												
			SD-08 Manufacturer's Instructions														
			Cold Weather Joint Sealing		G MAT												
		03201	SD-01 Preconstruction Submittals														
			Welding of Reinforcement Steel		G STR												
			SD-02 Shop Drawings														
			Fabrication and Placement	3.1	G STR												
			SD-03 Product Data														
			Manufacturer's Literature		G STR												
			SD-06 Test Reports														
			Material	2.2	G STR												
			Tests, Inspections, and Verifications	2.2	G STR												
			Materials Tests, Welding Procedures and Qualifications; Weld Examinations and Testing		G STR												
			SD-07 Certificates														
			Qualification of Welders and Welding Operators		G STR												
		03300	SD-01 Preconstruction Submittals														



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W912ES-04-R-0007

TITLE AND LOCATION Locks 2 & 5 Stoplog Slot Installation						CONTRACTOR											
ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAGRAPH	GOVT CLASSIFICATION OR REFERENCE NUMBER	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION		DATE FWD TO APPR AUTH/  DATE RCD FROM CONTR	APPROVING AUTHORITY				MAILED TO CONTR/  DATE RCD FRM APPR AUTH	REMARKS
						SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION CODE	DATE OF ACTION		DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER	ACTION CODE	DATE OF ACTION		
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
		03300	Concrete Operation Plan		G MAT												
			Cold Weather Plan		G MAT												
			SD-02 Shop Drawings														
			Shop Drawings		G STR												
			SD-03 Product Data														
			Concrete Mixture Design		G MAT												
			SD-07 Certificates														
			Manufacturer's Certificates														
			Qualifications														
		05055	SD-01 Preconstruction Submittals														
			Welding of Structural Steel	2.2.2.1	G STR												
			Welding of Steel in Tension Zones		G STR												
			Welding of Aluminum	2.2.2.3	G STR												
			Structural Steel Welding Repairs		G STR												
			Aluminum Welding Repairs		G STR												
			SD-02 Shop Drawings														
			Detail Drawings	1.5	G STR												
			SD-03 Product Data														
			Materials Orders	2.1.1	G STR												
			Materials List	2.1.2	G STR												
			Shipping Bill	2.1.3	G STR												
			SD-06 Test Reports														
			Materials Tests, Welding		G STR												
			Procedures and Qualifications;														
			Weld Examinations and Testing														
			SD-07 Certificates														

## SUBMITTAL REGISTER

CONTRACT NO.  
W912ES-04-R-0007

TITLE AND LOCATION Locks 2 & 5 Stoplog Slot Installation						CONTRACTOR												
ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAGRAPH	GOVT CLASSIFICATION OR REVIEW NUMBER	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION		DATE FWD TO APPR AUTH/  DATE RCD FROM CONTR	APPROVING AUTHORITY				MAILED TO CONTR/  DATE RCD FRM APPR AUTH	REMARKS	
						SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION CODE	DATE OF ACTION		DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER	ACTION CODE	DATE OF ACTION			
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)	
		05055	Qualification of Welders and Welding Operators	1.6	G STR													
			Welding of Aluminum	2.2.2.3	G STR													
			SD-11 Closeout Submittals															
			Materials Disposition		G STR													
		05500	SD-02 Shop Drawings															
			Shop Fabricated Metal Items		G STR													
			SD-03 Product Data															
			Miscellaneous Metals and Standard Metal Articles		G STR													
			Shop Fabricated Metal Items		G STR													
			SD-06 Test Reports															
			Miscellaneous Metals and Standard Metal Articles		G STR													
			Shop Fabricated Metal Items		G STR													
		09965	SD-03 Product Data															
			Accident Prevention Plan		G CO													
			Confined Space Procedures		G CO													
			Respiratory Protection Program		G CO													
			Airborne Sampling Plan		G CO													
			Ventilation Assessment		G CO													
			Medical Surveillance Plan		G CO													
			Worker Protection Plan		G CO													
			Environmental Compliance Plan		G													
			Waste Classification, Handling, and Disposal Plan		G CO													

CONTRACT NO.  
W912ES-04-R-0007

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# Locks 2 & 5 Stoplog Slot Installation

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# Locks 2 & 5 Stoplog Slot Installation

## SECTION 01355

### ENVIRONMENTAL PROTECTION

#### PART 1 GENERAL

##### 1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

##### CODE OF FEDERAL REGULATIONS (CFR)

33 CFR 328	Definitions
40 CFR 68	Chemical Accident Prevention Provisions
40 CFR 261	Identification and Listing of Hazardous Waste
40 CFR 262	Standards Applicable to Generators of Hazardous Waste
40 CFR 279	Standards for the Management of Used Oil
40 CFR 302	Designation, Reportable Quantities, and Notification
40 CFR 355	Emergency Planning and Notification
49 CFR 171 - 178	Hazardous Materials Regulations

##### ENGINEERING MANUALS (EM)

EM 385-1-1	(1996) U.S. Army Corps of Engineers Safety and Health Requirements Manual
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##### US ARMY CORPS OF ENGINEERS TECHNICAL REPORT

WETLAND MANUAL	Corps of Engineers Wetlands Delineation Manual Technical Report Y-87-1
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##### 1.2 DEFINITIONS

###### 1.2.1 Environmental Pollution and Damage

Environmental pollution and damage is the presence of chemical, physical, or biological elements or agents which adversely affect human health or welfare; unfavorably alter ecological balances of importance to human life; affect other species of importance to humankind; or degrade the environment aesthetically, culturally and/or historically.

## Locks 2 & 5 Stoplog Slot Installation

### 1.2.2 Environmental Protection

Environmental protection is the prevention/control of pollution and habitat disruption that may occur to the environment during construction. The control of environmental pollution and damage requires consideration of land, water, and air; biological and cultural resources; and includes management of visual aesthetics; noise; solid, chemical, gaseous, and liquid waste; radiant energy and radioactive material as well as other pollutants.

### 1.2.3 Contractor Generated Hazardous Waste

Contractor generated hazardous waste means materials that, if abandoned or disposed of, may meet the definition of a hazardous waste. These waste streams would typically consist of material brought on site by the Contractor to execute work, but are not fully consumed during the course of construction. Examples include, but are not limited to, excess paint thinners (e.g. methyl ethyl ketone, toluene etc.), waste thinners, excess paints, excess solvents, waste solvents, and excess pesticides, and contaminated pesticide equipment rinse water.

### 1.2.4 Land Application for Discharge Water

The term "Land Application" for discharge water implies that the Contractor shall discharge water at a rate which allows the water to percolate into the soil. No sheeting action, soil erosion, discharge into storm sewers, discharge into defined drainage areas, or discharge into the "waters of the United States" shall occur. Land Application shall be in compliance with all applicable Federal, State, and local laws and regulations.

### 1.2.5 Pesticide

Pesticide is defined as any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest, or intended for use as a plant regulator, defoliant or desiccant.

### 1.2.6 Pests

The term "pests" means arthropods, birds, rodents, nematodes, fungi, bacteria, viruses, algae, snails, marine borers, snakes, weeds and other organisms (except for human or animal disease-causing organisms) that adversely affect readiness, military operations, or the well-being of personnel and animals; attack or damage real property, supplies, equipment, or vegetation; or are otherwise undesirable.

### 1.2.7 Surface Discharge

The term "Surface Discharge" implies that the water is discharged with possible sheeting action and subsequent soil erosion may occur. Waters that are surface discharged may terminate in drainage ditches, storm sewers, creeks, and/or "waters of the United States" and would require a permit to discharge water from the governing agency.

### 1.2.8 Waters of the United States

All waters which are under the jurisdiction of the Clean Water Act, as defined in 33 CFR 328.

## Locks 2 & 5 Stoplog Slot Installation

### 1.2.9 Wetlands

Wetlands means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, and bogs. Official determination of whether or not an area is classified as a wetland must be done in accordance with WETLAND MANUAL.

### 1.3 GENERAL REQUIREMENTS

The Contractor shall minimize environmental pollution and damage that may occur as the result of construction operations. The environmental resources within the project boundaries and those affected outside the limits of permanent work shall be protected during the entire duration of this contract. The Contractor shall be responsible for any delays resulting from failure to comply with environmental laws and regulations.

### 1.4 SUBCONTRACTORS

The Contractor shall ensure compliance with this section by subcontractors.

### 1.5 PAYMENT

No separate payment will be made for work covered under this section. The Contractor shall be responsible for payment of fees associated with environmental permits, application, and/or notices obtained by the Contractor. All costs associated with this section shall be included in the contract price. The Contractor shall be responsible for payment of all fines/fees for violation or non-compliance with Federal, State, Regional and local laws and regulations.

### 1.6 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Environmental Protection Plan; G,ENV

The environmental protection plan.

### 1.7 ENVIRONMENTAL PROTECTION PLAN

Prior to commencing construction activities or delivery of materials to the site, the Contractor shall submit an Environmental Protection Plan for review and approval by the Contracting Officer. The purpose of the Environmental Protection Plan is to present a comprehensive overview of known or potential environmental issues which the Contractor must address during construction. Issues of concern shall be defined within the Environmental Protection Plan as outlined in this section. The Contractor shall address each topic at a level of detail commensurate with the environmental issue and required construction task(s). Topics or issues which are not identified in this section, but which the Contractor



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considers necessary, shall be identified and discussed after those items formally identified in this section. Prior to submittal of the Environmental Protection Plan, the Contractor shall meet with the Contracting Officer for the purpose of discussing the implementation of the initial Environmental Protection Plan; possible subsequent additions and revisions to the plan including any reporting requirements; and methods for administration of the Contractor's Environmental Plans. The Environmental Protection Plan shall be current and maintained onsite by the Contractor.

### 1.7.1 Compliance

No requirement in this Section shall be construed as relieving the Contractor of any applicable Federal, State, and local environmental protection laws and regulations. During Construction, the Contractor shall be responsible for identifying, implementing, and submitting for approval any additional requirements to be included in the Environmental Protection Plan.

### 1.7.2 Contents

The environmental protection plan shall include, but shall not be limited to, the following:

- a. Name(s) of person(s) within the Contractor's organization who is(are) responsible for ensuring adherence to the Environmental Protection Plan.
- b. Name(s) and qualifications of person(s) responsible for manifesting hazardous waste to be removed from the site, if applicable.
- c. Name(s) and qualifications of person(s) responsible for training the Contractor's environmental protection personnel.
- d. Description of the Contractor's environmental protection personnel training program.
- e. An erosion and sediment control plan which identifies the type and location of the erosion and sediment controls to be provided. The plan shall include monitoring and reporting requirements to assure that the control measures are in compliance with the erosion and sediment control plan, Federal, State, and local laws and regulations. A Storm Water Pollution Prevention Plan (SWPPP) may be substituted for this plan.
- f. Drawings showing locations of proposed temporary excavations or embankments for haul roads, stream crossings, material storage areas, structures, sanitary facilities, and stockpiles of excess or spoil materials including methods to control runoff and to contain materials on the site.
- g. Traffic control plans including measures to reduce erosion of temporary roadbeds by construction traffic, especially during wet weather. Plan shall include measures to minimize the amount of mud transported onto paved public roads by vehicles or runoff.
- h. Work area plan showing the proposed activity in each portion of the area and identifying the areas of limited use or nonuse. Plan should include measures for marking the limits of use areas including methods for protection of features to be preserved within authorized work areas.

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- i. Drawing showing the location of borrow areas.
- j. The Spill Control plan shall include the procedures, instructions, and reports to be used in the event of an unforeseen spill of a substance regulated by 40 CFR 68, 40 CFR 302, 40 CFR 355, and/or regulated under State or Local laws and regulations. The Spill Control Plan supplements the requirements of EM 385-1-1. This plan shall include as a minimum:
  - 1. The name of the individual who will report any spills or hazardous substance releases and who will follow up with complete documentation. This individual shall immediately notify the Contracting Officer, and the local Fire Department for flammable materials, in addition to the legally required Federal, State, and local reporting channels (including the National Response Center 1-800-424-8802) if a reportable quantity is released to the environment. The plan shall contain a list of the required reporting channels and telephone numbers.
  - 2. The name and qualifications of the individual who will be responsible for implementing and supervising the containment and cleanup.
  - 3. Training requirements for Contractor's personnel and methods of accomplishing the training.
  - 4. A list of materials and equipment to be immediately available at the job site, tailored to cleanup work of the potential hazard(s) identified.
  - 5. The names and locations of suppliers of containment materials and locations of additional fuel oil recovery, cleanup, restoration, and material-placement equipment available in case of an unforeseen spill emergency.
  - 6. The methods and procedures to be used for expeditious contaminant cleanup.
- k. A non-hazardous solid waste disposal plan identifying methods and locations for solid waste disposal including clearing debris. The plan shall include schedules for disposal. The Contractor shall identify any subcontractors responsible for the transportation and disposal of solid waste. Licenses or permits shall be submitted for solid waste disposal sites that are not a commercial operating facility. Evidence of the disposal facility's acceptance of the solid waste shall be attached to this plan during the construction.
- l. A recycling and solid waste minimization plan with a list of measures to reduce consumption of energy and natural resources. The plan shall detail the Contractor's actions to comply with and to participate in Federal, State, Regional, and local government sponsored recycling programs to reduce the volume of solid waste at the source.
- m. An air pollution control plan detailing provisions to assure that dust, debris, materials, trash, etc., do not become air borne and travel off the project site.
- n. A contaminant prevention plan that: identifies potentially

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hazardous substances to be used on the job site; identifies the intended actions to prevent introduction of such materials into the air, water, or ground; and details provisions for compliance with Federal, State, and local laws and regulations for storage and handling of these materials. In accordance with EM 385-1-1, a copy of the Material Safety Data Sheets (MSDS) and the maximum quantity of each hazardous material to be on site at any given time shall be included in the contaminant prevention plan. As new hazardous materials are brought on site or removed from the site, the plan shall be updated.

o. A waste water management plan that identifies the methods and procedures for management and/or discharge of waste waters which are directly derived from construction activities, such as concrete curing water, clean-up water, dewatering of ground water, disinfection water, hydrostatic test water, and water used in flushing of lines. If a settling/retention pond is required, the plan shall include the design of the pond including drawings, removal plan, and testing requirements for possible pollutants. If land application will be the method of disposal for the waste water, the plan shall include a sketch showing the location for land application along with a description of the pretreatment methods to be implemented. If surface discharge will be the method of disposal, a copy of the permit and associated documents shall be included as an attachment prior to discharging the waste water. If disposal is to a sanitary sewer, the plan shall include documentation that the Waste Water Treatment Plant Operator has approved the flow rate, volume, and type of discharge.

p. A historical, archaeological, cultural resources biological resources and wetlands plan that defines procedures for identifying and protecting historical, archaeological, cultural resources, biological resources and wetlands known to be on the project site: and/or identifies procedures to be followed if historical archaeological, cultural resources, biological resources and wetlands not previously known to be onsite or in the area are discovered during construction. The plan shall include methods to assure the protection of known or discovered resources and shall identify lines of communication between Contractor personnel and the Contracting Officer.

q. A pesticide treatment plan shall be included and updated, as information becomes available. The plan shall include: sequence of treatment, dates, times, locations, pesticide trade name, EPA registration numbers, authorized uses, chemical composition, formulation, original and applied concentration, application rates of active ingredient (e.g. pounds per acre), equipment used for application and calibration of equipment. The Contractor is responsible for Federal, State, Regional and Local pest management record keeping and reporting requirements.

### 1.7.3 Appendix

Copies of all environmental permits, permit application packages, approvals to construct, notifications, certifications, reports, and termination documents shall be attached, as an appendix, to the Environmental Protection Plan.

### 1.8 PROTECTION FEATURES

This paragraph supplements the Contract Clause 52.236-9 PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS.

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Prior to start of any onsite construction activities, the Contractor and the Contracting Officer shall make a joint condition survey. Immediately following the survey, the Contractor shall prepare a brief report including a plan describing the features requiring protection under the provisions of the Contract Clauses, which are not specifically identified on the drawings as environmental features requiring protection along with the condition of trees, shrubs and grassed areas immediately adjacent to the site of work and adjacent to the Contractor's assigned storage area and access route(s), as applicable. This survey report shall be signed by both the Contractor and the Contracting Officer upon mutual agreement as to its accuracy and completeness. The Contractor shall protect those environmental features included in the survey report and any indicated on the drawings, regardless of interference which their preservation may cause to the Contractor's work under the contract.

### 1.9 ENVIRONMENTAL ASSESSMENT OF CONTRACT DEVIATIONS

Any deviations, requested by the Contractor, from the drawings, plans and specifications which may have an environmental impact will be subject to approval by the Contracting Officer and may require an extended review, processing, and approval time. The Contracting Officer reserves the right to disapprove alternate methods, even if they are more cost effective, if the Contracting Officer determines that the proposed alternate method will have an adverse environmental impact.

### 1.10 NOTIFICATION

The Contracting Officer will notify the Contractor in writing of any observed noncompliance with Federal, State or local environmental laws or regulations, permits, and other elements of the Contractor's Environmental Protection plan. The Contractor shall, after receipt of such notice, inform the Contracting Officer of the proposed corrective action and take such action when approved by the Contracting Officer. The Contracting Officer may issue an order stopping (suspending) all or part of the work until satisfactory corrective action has been taken. No time extensions shall be granted or equitable adjustments allowed to the Contractor for any such suspensions. This is in addition to any other actions the Contracting Officer may take under the contract, or in accordance with the Federal Acquisition Regulation or Federal Law. The failure of the Contracting Officer to notify the Contractor of any noncompliance with Federal, State, or local environmental laws or regulations, permits, or the Contractor's Environmental Protection Plan shall not relieve the Contractor of the duty to comply with those laws or regulations, permits, or the Contractor's Environmental Protection Plan.

## PART 2 PRODUCTS (NOT USED)

## PART 3 EXECUTION

### 3.1 PERMITS

Permits obtained by the Government related to the work of this contract are attached in Section 00830: ATTACHMENTS, or referenced in Section 01000: GENERAL. The Contractor is responsible for obtaining all applicable permits or licenses, except those obtained by the Government. The Contractor shall be responsible for implementing the terms and requirements of the permits held by the Contractor or the Government. A copy of permits

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referenced in Section 01000: GENERAL are available for inspection in the Office of the District Engineer, Army Corps of Engineers Centre, 190 Fifth Street East, St. Paul, Minnesota 55101-1638.

### 3.2 LAND RESOURCES

The Contractor shall confine all activities to areas defined by the drawings and specifications. Prior to the beginning of any construction, the Contractor shall identify any land resources to be preserved within the work area. Except in areas indicated on the drawings or specified to be cleared, the Contractor shall not remove, cut, deface, injure, or destroy land resources including trees, shrubs, vines, grasses, topsoil, and land forms without approval. No ropes, cables, or guys shall be fastened to or attached to any trees for anchorage unless specifically authorized. The Contractor shall provide effective protection for land and vegetation resources at all times as defined in the following subparagraphs. Stone, soil, or other materials displaced into uncleared areas shall be removed by the Contractor.

#### 3.2.1 Work Area Limits

Prior to commencing construction activities, the Contractor shall mark the areas that need not be disturbed under this contract. Isolated areas within the general work area which are not to be disturbed shall be marked or fenced. Monuments and markers shall be protected before construction operations commence. Where construction operations are to be conducted during darkness, any markers shall be visible in the dark. The Contractor's personnel shall be knowledgeable of the purpose for marking and/or protecting particular objects.

#### 3.2.2 Landscape

Trees, shrubs, vines, grasses, land forms and other landscape features indicated and defined on the drawings to be preserved shall be clearly identified by marking, fencing, or wrapping with boards, or any other approved techniques. The Contractor shall restore landscape features damaged or destroyed during construction operations outside the limits of the approved work area.

#### 3.2.3 Erosion and Sediment Controls

The Contractor shall be responsible for providing erosion and sediment control measures in accordance with Federal, State, and local laws and regulations. The erosion and sediment controls selected and maintained by the Contractor shall be such that water quality standards are not violated as a result of the Contractor's construction activities. The area of bare soil exposed at any one time by construction operations should be kept to a minimum. The Contractor shall construct or install temporary and permanent erosion and sediment control best management practices (BMPs). BMPs may include, but not be limited to, vegetation cover, stream bank stabilization, slope stabilization, silt fences, construction of terraces, interceptor channels, sediment traps, inlet and outfall protection, diversion channels, and sedimentation basins. Any temporary measures shall be removed after the area has been stabilized.

#### 3.2.4 Contractor Facilities and Work Areas

The Contractor's field offices, staging areas, stockpile storage, and temporary buildings shall be placed in areas designated on the drawings or

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as directed by the Contracting Officer. Temporary movement or relocation of Contractor facilities shall be made only when approved. Erosion and sediment controls shall be provided for on-site borrow and spoil areas to prevent sediment from entering nearby waters. Temporary excavation and embankments for plant and/or work areas shall be controlled to protect adjacent areas.

### 3.3 WATER RESOURCES

The Contractor shall monitor construction activities to prevent pollution of surface and ground waters. Toxic or hazardous chemicals shall not be applied to soil or vegetation unless otherwise indicated. All water areas affected by construction activities shall be monitored by the Contractor. For construction activities immediately adjacent to impaired surface waters, the Contractor shall be capable of quantifying sediment or pollutant loading to that surface water when required by State or Federally issued Clean Water Act permits.

#### 3.3.1 Cofferdams, Diversions, and Dewatering Operations

Construction operations for dewatering, water return for hydraulic dredging, removal of cofferdams, tailrace excavation, and tunnel closure shall be controlled at all times to maintain compliance with existing State water quality standards and designated uses of the surface water body. The Contractor shall plan its operations and perform all work necessary to minimize adverse impact, such as water turbidity, on the habitat for wildlife and on water quality for downstream use.

#### 3.3.2 Stream Crossings

Stream crossings shall allow movement of materials or equipment without violating water pollution control standards of the Federal, State, and local governments.

#### 3.3.3 Wetlands

The Contractor shall not enter, disturb, destroy, or allow discharge of contaminants into any wetlands, unless authorized herein. The Contractor shall be responsible for the protection of wetlands shown on the drawings. Authorization to enter specific wetlands identified shall not relieve the Contractor from any obligation to protect other wetlands within, adjacent to, or in the vicinity of the construction site and associated boundaries.

### 3.4 AIR RESOURCES

Equipment operation, activities, or processes performed by the Contractor shall be in accordance with all Federal and State air emission and performance laws and standards.

#### 3.4.1 Particulates

Dust particles; aerosols and gaseous by-products from construction activities; and processing and preparation of materials, such as from asphaltic batch plants; shall be controlled at all times, including weekends, holidays and hours when work is not in progress. The Contractor shall maintain excavations, stockpiles, haul roads, permanent and temporary access roads, plant sites, spoil areas, borrow areas, and other work areas within or outside the project boundaries free from particulates which would cause the Federal, State, and local air pollution standards to be exceeded.

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or which would cause a hazard or a nuisance. Sprinkling, chemical treatment of an approved type, baghouse, scrubbers, electrostatic precipitators or other methods will be permitted to control particulates in the work area. Sprinkling, to be efficient, must be repeated to keep the disturbed area damp at all times. The Contractor must have sufficient, competent equipment available to accomplish these tasks. Particulate control shall be performed as the work proceeds and whenever a particulate nuisance or hazard occurs. The Contractor shall comply with all State and local visibility regulations.

### 3.4.2 Odors

Odors from construction activities shall be controlled at all times. The odors shall not cause a health hazard and shall be in compliance with State regulations and/or local ordinances.

### 3.4.3 Sound Intrusions

The Contractor shall keep construction activities under surveillance and control to minimize environment damage by noise. The Contractor shall comply with state rules.

## 3.5 CHEMICAL MATERIALS MANAGEMENT AND WASTE DISPOSAL

Disposal of wastes shall be as directed below, unless otherwise specified in other sections and/or shown on the drawings.

### 3.5.1 Solid Wastes

Solid wastes (excluding dredge material and clearing debris) shall be placed in containers which are emptied on a regular schedule. Handling, storage, and disposal shall be conducted to prevent contamination. Segregation measures shall be employed so that no hazardous or toxic waste will become co-mingled with solid waste. The Contractor shall transport solid waste off Government property and dispose of it in compliance with Federal, State, and local requirements for solid waste disposal. A Subtitle D RCRA permitted landfill shall be the minimum acceptable off-site solid waste disposal option. The Contractor shall verify that the selected transporters and disposal facilities have the necessary permits and licenses to operate.

### 3.5.2 Chemicals and Chemical Wastes

Chemicals shall be dispensed ensuring no spillage to the ground or water. Periodic inspections of dispensing areas to identify leakage and initiate corrective action shall be performed. Chemical waste shall be collected in corrosion resistant, compatible containers. Collection drums shall be monitored and removed to a staging or storage area when contents are within 6 inches of the top. Wastes shall be classified, managed, stored, and disposed of in accordance with Federal, State, and local laws and regulations.

### 3.5.3 Contractor Generated Hazardous Wastes/Excess Hazardous Materials

Hazardous wastes are defined in 40 CFR 261, or are as defined by applicable State and local regulations. Hazardous materials are defined in 49 CFR 171 - 178. The Contractor shall, at a minimum, manage and store hazardous waste in compliance with 40 CFR 262. The Contractor shall take sufficient measures to prevent spillage of hazardous and toxic materials

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during dispensing. The Contractor shall segregate hazardous waste from other materials and wastes, shall protect it from the weather by placing it in a safe covered location, and shall take precautionary measures such as berming or other appropriate measures against accidental spillage. The Contractor shall be responsible for storage, describing, packaging, labeling, marking, and placarding of hazardous waste and hazardous material in accordance with 49 CFR 171 - 178, State, and local laws and regulations.

The Contractor shall transport Contractor generated hazardous waste off Government property in accordance with the Environmental Protection Agency and the Department of Transportation laws and regulations. The Contractor shall dispose of hazardous waste in compliance with Federal, State and local laws and regulations. Spills of hazardous or toxic materials shall be immediately reported to the Contracting Officer. Cleanup and cleanup costs due to spills shall be the Contractor's responsibility. The disposition of Contractor generated hazardous waste and excess hazardous materials are the Contractor's responsibility.

### 3.5.4 Fuel and Lubricants

Storage, fueling and lubrication of equipment and motor vehicles shall be conducted in a manner that affords the maximum protection against spill and evaporation. Fuel, lubricants and oil shall be managed and stored in accordance with all Federal, State, Regional, and local laws and regulations. Used lubricants and used oil to be discarded shall be stored in marked corrosion-resistant containers and recycled or disposed in accordance with 40 CFR 279, State, and local laws and regulations.

### 3.5.5 Waste Water

Waste water from construction activities, such as onsite material processing, concrete curing, foundation and concrete clean-up, water used in concrete trucks, forms, etc. shall not be allowed to enter water ways.

### 3.6 RECYCLING AND WASTE MINIMIZATION

The Contractor shall participate in State and local government sponsored recycling programs.

### 3.7 HISTORICAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES

Existing historical, archaeological, and cultural resources within the Contractor's work area are shown on the drawings, or will be designated by the Contracting Officer, if any have been identified. The Contractor shall protect these resources and shall be responsible for their preservation during the life of the Contract. If during excavation or other construction activities any previously unidentified or unanticipated historical, archaeological, and cultural resources are discovered or found, all activities that may damage or alter such resources shall be temporarily suspended. Resources covered by this paragraph include but are not limited to: any human skeletal remains or burials; artifacts; shell, midden, bone, charcoal, or other deposits; rock or coral alignments, pavings, wall, or other constructed features; and any indication of agricultural or other human activities. Upon such discovery or find, the Contractor shall immediately notify the Contracting Officer so that the appropriate authorities may be notified and a determination made as to their significance and what, if any, special disposition of the finds should be made. The Contractor shall cease all activities that may result in impact to or the destruction of these resources. The Contractor shall secure the area and prevent employees or other persons from trespassing on, removing,



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or otherwise disturbing such resources.

### 3.8 BIOLOGICAL RESOURCES

The Contractor shall minimize interference with, disturbance to, and damage to fish, wildlife, and plants including their habitat. The Contractor shall be responsible for the protection of threatened and endangered animal and plant species including their habitat in accordance with Federal, State, Regional, and local laws and regulations.

### 3.9 PESTICIDES

#### 3.9.1 Pesticide Delivery and Storage

Pesticides shall be delivered to the site in the original, unopened containers bearing legible labels indicating the EPA registration number and the manufacturer's registered uses. Pesticides shall be stored according to manufacturer's instructions and under lock and key when unattended.

#### 3.9.2 Qualifications

For the application of pesticides, the Contractor shall use the services of a subcontractor whose principal business is pest control. The subcontractor shall be licensed and certified in the state where the work is to be performed.

#### 3.9.3 Pesticide Handling Requirements

The Contractor shall formulate, treat with, and dispose of pesticides and associated containers in accordance with label directions and shall use the clothing and personal protective equipment specified on the labeling for use during all phases of the application. Material Safety Data Sheets (MSDS) shall be available for all pesticide products.

#### 3.9.4 Application

Pesticides shall be applied by a State Certified Pesticide Applicator in accordance with EPA label restrictions and recommendation. The Certified Applicator shall wear clothing and personal protective equipment as specified on the pesticide label. Water used for formulating shall only come from locations designated by the Contracting Officer. The Contractor shall not allow the equipment to overflow. Prior to application of pesticide, all equipment shall be inspected for leaks, clogging, wear, or damage and shall be repaired prior to being used.

### 3.10 PREVIOUSLY USED EQUIPMENT

The Contractor shall clean all previously used construction equipment prior to bringing it onto the project site. The Contractor shall ensure that the equipment is free from soil residuals, egg deposits from plant pests, noxious weeds, and plant seeds. The Contractor shall consult with the USDA jurisdictional office for additional cleaning requirements.

### 3.11 MAINTENANCE OF POLLUTION FACILITIES

The Contractor shall maintain permanent and temporary pollution control facilities and devices for the duration of the contract or for that length of time construction activities create the particular pollutant.

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### 3.12 TRAINING OF CONTRACTOR PERSONNEL

The Contractor's personnel shall be trained in all phases of environmental protection and pollution control. The Contractor shall conduct environmental protection/pollution control meetings for all Contractor personnel prior to commencing construction activities. Additional meetings shall be conducted for new personnel and when site conditions change. The training and meeting agenda shall include: methods of detecting and avoiding pollution; familiarization with statutory and contractual pollution standards; installation and care of devices, vegetative covers, and instruments required for monitoring purposes to ensure adequate and continuous environmental protection/pollution control; anticipated hazardous or toxic chemicals or wastes, and other regulated contaminants; recognition and protection of archaeological sites, artifacts, wetlands, and endangered species and their habitat that are known to be in the area.

### 3.13 POST CONSTRUCTION CLEANUP

The Contractor shall clean up all areas used for construction in accordance with Contract Clause 52.236-12 CLEANING UP. The Contractor shall, unless otherwise instructed in writing by the Contracting Officer, obliterate all signs of temporary construction facilities such as haul roads, work area, structures, foundations of temporary structures, stockpiles of excess or waste materials, and other vestiges of construction prior to final acceptance of the work. The disturbed area shall be graded, filled and the entire area seeded unless otherwise indicated.

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## SECTION 01451

### CONTRACTOR QUALITY CONTROL

#### PART 1 GENERAL

##### 1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

#### AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM D 3740	(2001) Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction
ASTM E 329	(2000b) Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction

##### 1.2 PAYMENT

The Contractor shall be responsible for the work for the work of this section, without any direct compensation being made other than the payment received for contract items.

#### PART 2 PRODUCTS (Not Applicable)

#### PART 3 EXECUTION

##### 3.1 GENERAL REQUIREMENTS

The Contractor is responsible for quality control and shall establish and maintain an effective quality control system in compliance with the Contract Clause titled "Inspection of Construction." The quality control system shall consist of plans, procedures, and organization necessary to produce an end product which complies with the contract requirements. The system shall cover all construction operations, both onsite and offsite, and shall be keyed to the proposed construction sequence. The site project superintendent will be held responsible for the quality of work on the job and is subject to removal by the Contracting Officer for non-compliance with the quality requirements specified in the contract. The site project superintendent in this context shall be the highest level manager responsible for the overall construction activities at the site, including quality and production. The site project superintendent shall maintain a physical presence at the site at all times, except as otherwise acceptable to the Contracting Officer, and shall be responsible for all construction and construction related activities at the site.

### 3.2 QUALITY CONTROL PLAN

#### 3.2.1 General

The Contractor shall furnish for review by the Government, not later than 15 days after receipt of notice to proceed, the Contractor Quality Control (CQC) Plan proposed to implement the requirements of the Contract Clause titled "Inspection of Construction." The plan shall identify personnel, procedures, control, instructions, tests, records, and forms to be used. The Government will consider an interim plan for the first 30 days of operation. Construction will be permitted to begin only after acceptance of the CQC Plan or acceptance of an interim plan applicable to the particular feature of work to be started. Work outside of the features of work included in an accepted interim plan will not be permitted to begin until acceptance of a CQC Plan or another interim plan containing the additional features of work to be started.

#### 3.2.2 Content of the CQC Plan

The CQC Plan shall include, as a minimum, the following to cover all construction operations, both onsite and offsite, including work by subcontractors, fabricators, suppliers, and purchasing agents:

- a. A description of the quality control organization, including a chart showing lines of authority and acknowledgment that the CQC staff shall implement the three phase control system for all aspects of the work specified. The staff shall include a CQC System Manager who shall report to the project superintendent or someone higher in the Contractor's organization.
- b. The name, qualifications (in resume format), duties, responsibilities, and authorities of each person assigned a CQC function.
- c. A copy of the letter to the CQC System Manager signed by an authorized official of the firm which describes the responsibilities and delegates sufficient authorities to adequately perform the functions of the CQC System Manager, including authority to stop work which is not in compliance with the contract. The CQC System Manager shall issue letters of direction to all other various quality control representatives outlining duties, authorities, and responsibilities. Copies of these letters shall also be furnished to the Government.
- d. Procedures for scheduling, reviewing, certifying, and managing submittals, including those of subcontractors, offsite fabricators, suppliers, and purchasing agents. These procedures shall be in accordance with Section 01330 SUBMITTAL PROCEDURES.
- e. Control, verification, and acceptance testing procedures for each specific test to include the test name, specification paragraph requiring test, feature of work to be tested, test frequency, and person responsible for each test. (Laboratory facilities will be approved by the Contracting Officer.)
- f. Procedures for tracking preparatory, initial, and follow-up control phases and control, verification, and acceptance tests including documentation.

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- g. Procedures for tracking construction deficiencies from identification through acceptable corrective action. These procedures shall establish verification that identified deficiencies have been corrected.
- h. Reporting procedures, including proposed reporting formats.
- i. A list of the definable features of work. A definable feature of work is a task which is separate and distinct from other tasks, has separate control requirements, and may be identified by different trades or disciplines, or it may be work by the same trade in a different environment. Although each section of the specifications may generally be considered as a definable feature of work, there are frequently more than one definable features under a particular section. This list will be agreed upon during the coordination meeting.

### 3.2.3 Acceptance of Plan

Acceptance of the Contractor's plan is required prior to the start of construction. Acceptance is conditional and will be predicated on satisfactory performance during the construction. The Government reserves the right to require the Contractor to make changes in the CQC Plan and operations including removal of personnel, as necessary, to obtain the quality specified.

### 3.2.4 Notification of Changes

After acceptance of the CQC Plan, the Contractor shall notify the Contracting Officer in writing of any proposed change. Proposed changes are subject to acceptance by the Contracting Officer.

## 3.3 COORDINATION MEETING

After the Preconstruction Conference, before start of construction, and prior to acceptance by the Government of the CQC Plan, the Contractor shall meet with the Contracting Officer or Authorized Representative and discuss the Contractor's quality control system. The CQC Plan shall be submitted for review a minimum of 10 calendar days prior to the Coordination Meeting.

During the meeting, a mutual understanding of the system details shall be developed, including the forms for recording the CQC operations, control activities, testing, administration of the system for both onsite and offsite work, and the interrelationship of Contractor's Management and control with the Government's Quality Assurance. Minutes of the meeting shall be prepared by the Government and signed by both the Contractor and the Contracting Officer. The minutes shall become a part of the contract file. There may be occasions when subsequent conferences will be called by either party to reconfirm mutual understandings and/or address deficiencies in the CQC system or procedures which may require corrective action by the Contractor.

## 3.4 QUALITY CONTROL ORGANIZATION

### 3.4.1 Personnel Requirements

The requirements for the CQC organization are a CQC System Manager and sufficient number of additional qualified personnel to ensure safety and contract compliance. The Safety and Health Manager shall receive direction

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and authority from the CQC System Manager and shall serve as a member of the CQC staff. The Contractor's CQC staff shall maintain a presence at the site at all times during progress of the work and have complete authority and responsibility to take any action necessary to ensure contract compliance. The CQC staff shall be subject to acceptance by the Contracting Officer. The Contractor shall provide adequate office space, filing systems and other resources as necessary to maintain an effective and fully functional CQC organization. Complete records of all letters, material submittals, shop drawing submittals, schedules and all other project documentation shall be maintained at the site at all times, except as otherwise acceptable to the Contracting Officer.

### 3.4.2 CQC System Manager

The Contractor shall identify as CQC System Manager an individual within the onsite work organization who shall be responsible for overall management of CQC and have the authority to act in all CQC matters for the Contractor. The CQC System Manager shall be a graduate engineer, graduate architect, or a graduate of construction management, with a minimum of 2 years experience in related duties on construction similar to this contract. This CQC System Manager shall be on the site at all times during construction and shall be employed by the prime Contractor. The CQC System Manager shall be assigned as System Manager but may have duties as project superintendent in addition to quality control. An alternate for the CQC System Manager shall be identified in the plan to serve in the event of the System Manager's absence. The requirements for the alternate shall be the same as for the designated CQC System Manager.

### 3.4.3 Additional Requirement

In addition to the above qualifications, the CQC System Manager shall have completed the course entitled "Construction Quality Management For Contractors". This course is periodically offered through the Government in the Minneapolis - St. Paul, Minnesota metropolitan area.

### 3.4.4 Organizational Changes

The Contractor shall maintain the CQC staff at full strength at all times. When it is necessary to make changes to the CQC staff, the Contractor shall revise the CQC Plan to reflect the changes and submit the changes to the Contracting Officer for acceptance.

## 3.5 SUBMITTALS AND DELIVERABLES

Submittals, if needed, shall be made as specified in Section 01330 SUBMITTAL PROCEDURES. The CQC organization shall be responsible for certifying that all submittals and deliverables are in compliance with the contract requirements.

## 3.6 CONTROL

Contractor Quality Control is the means by which the Contractor ensures that the construction, to include that of subcontractors and suppliers, complies with the requirements of the contract. At least three phases of control shall be conducted by the CQC System Manager for each definable feature of work as follows:

## Locks 2 & 5 Stoplog Slot Installation

### 3.6.1 Preparatory Phase

This phase shall be performed prior to beginning work on each definable feature of work, after all required plans/documents/materials are approved/accepted, and after copies are at the work site. This phase shall include:

- a. A review of each paragraph of applicable specifications, reference codes, and standards. A copy of those sections of referenced codes and standards applicable to that portion of the work to be accomplished in the field shall be made available by the Contractor at the preparatory inspection. These copies shall be maintained in the field and available for use by Government personnel until final acceptance of the work.
- b. A review of the contract drawings.
- c. A check to assure that all materials and/or equipment have been tested, submitted, and approved.
- d. Review of provisions that have been made to provide required control inspection and testing.
- e. Examination of the work area to assure that all required preliminary work has been completed and is in compliance with the contract.
- f. A physical examination of required materials, equipment, and sample work to assure that they are on hand, conform to approved shop drawings or submitted data, and are properly stored.
- g. A review of the appropriate activity hazard analysis to assure safety requirements are met.
- h. Discussion of procedures for controlling quality of the work including repetitive deficiencies. Document construction tolerances and workmanship standards for that feature of work.
- i. A check to ensure that the portion of the plan for the work to be performed has been accepted by the Contracting Officer.
- j. Discussion of the initial control phase.
- k. The Government shall be notified at least 48 hours in advance of beginning the preparatory control phase. This phase shall include a meeting conducted by the CQC System Manager and attended by the superintendent, other CQC personnel (as applicable), and the foreman responsible for the definable feature. The results of the preparatory phase actions shall be documented by separate minutes prepared by the CQC System Manager and attached to the daily CQC report. The Contractor shall instruct applicable workers as to the acceptable level of workmanship required in order to meet contract specifications.

### 3.6.2 Initial Phase

This phase shall be accomplished at the beginning of a definable feature of work. The following shall be accomplished:



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- a. A check of work to ensure that it is in full compliance with contract requirements. Review minutes of the preparatory meeting.
- b. Verify adequacy of controls to ensure full contract compliance. Verify required control inspection and testing.
- c. Establish level of workmanship and verify that it meets minimum acceptable workmanship standards. Compare with required sample panels as appropriate.
- d. Resolve all differences.
- e. Check safety to include compliance with and upgrading of the safety plan and activity hazard analysis. Review the activity analysis with each worker.
- f. The Government shall be notified at least 48 hours in advance of beginning the initial phase. Separate minutes of this phase shall be prepared by the CQC System Manager and attached to the daily CQC report. Exact location of initial phase shall be indicated for future reference and comparison with follow-up phases.
- g. The initial phase should be repeated for each new crew to work onsite, or any time acceptable specified quality standards are not being met.

### 3.6.3 Follow-up Phase

Daily checks shall be performed to assure control activities, including control testing, are providing continued compliance with contract requirements, until completion of the particular feature of work. The checks shall be made a matter of record in the CQC documentation. Final follow-up checks shall be conducted and all deficiencies corrected prior to the start of additional features of work which may be affected by the deficient work. The Contractor shall not build upon nor conceal non-conforming work.

### 3.6.4 Additional Preparatory and Initial Phases

Additional preparatory and initial phases shall be conducted on the same definable features of work if: the quality of on-going work is unacceptable; if there are changes in the applicable CQC staff, onsite production supervision or work crew; if work on a definable feature is resumed after a substantial period of inactivity; or if other problems develop.

## 3.7 TESTS

### 3.7.1 Testing Procedure

The Contractor shall perform specified or required tests to verify that control measures are adequate to provide a product which conforms to contract requirements. Upon request, the Contractor shall furnish to the Government duplicate samples of test specimens for possible testing by the Government. Testing includes operation and/or acceptance tests when specified. The Contractor shall procure the services of a testing laboratory meeting the requirements listed under PARAGRAPH: CAPABILITY CHECK, or establish a testing laboratory at the project site meeting those requirements. The Contractor shall perform the following activities and

## Locks 2 & 5 Stoplog Slot Installation

record and provide the following data:

- a. Verify that testing procedures comply with contract requirements.
- b. Verify that facilities and testing equipment are available and comply with testing standards.
- c. Check test instrument calibration data against certified standards.
- d. Verify that recording forms and test identification control number system, including all of the test documentation requirements, have been prepared.
- e. Results of all tests taken, both passing and failing tests, shall be recorded on the CQC report for the date taken. Specification paragraph reference, location where tests were taken, and the sequential control number identifying the test shall be given. If approved by the Contracting Officer, actual test reports may be submitted later with a reference to the test number and date taken. An information copy of tests performed by an offsite or commercial test facility shall be provided directly to the Contracting Officer. Failure to submit timely test reports as stated may result in nonpayment for related work performed and disapproval of the test facility for this contract.

### 3.7.2 Testing Laboratories

#### 3.7.2.1 Capability Check

The Government reserves the right to check laboratory equipment in the proposed laboratory for compliance with the standards set forth in the contract specifications and to check the laboratory technician's testing procedures and techniques. Laboratories utilized for testing soils, concrete, asphalt, and steel shall meet criteria detailed in ASTM D 3740 and ASTM E 329. The Contractor shall submit a Quality Management Manual meeting the requirements of ASTM D 3740 and ASTM E 329 for each laboratory to be used, including on-site project laboratories.

#### 3.7.2.2 Capability Recheck

If the selected laboratory fails the capability check, the Contractor will be assessed a charge of \$1000.00 to reimburse the Government for each succeeding recheck of the laboratory or the checking of a subsequently selected laboratory. Such costs will be deducted from the contract amount due the Contractor.

### 3.7.3 Onsite Laboratory

The Government reserves the right to utilize the Contractor's control testing laboratory and equipment to make assurance tests and to check the Contractor's testing procedures, techniques, and test results at no additional cost to the Government.

### 3.7.4 Furnishing or Transportation of Samples for Testing

Costs incidental to the transportation of samples or materials shall be borne by the Contractor. Samples of materials for test verification and acceptance testing by the Government shall be delivered to the Contracting Officer. Coordination for each specific test, exact delivery location, and

## Locks 2 & 5 Stoplog Slot Installation

dates will be made with the Contracting Officer.

### 3.8 COMPLETION INSPECTION

#### 3.8.1 Punch-Out Inspection

Near the end of the work, or any increment of the work established by a time stated in the Special Clause, "Commencement, Prosecution, and Completion of Work", or by the specifications, the CQC Manager shall conduct an inspection of the work. A punch list of items which do not conform to the approved drawings and specifications shall be prepared and included in the CQC documentation, as required by paragraph DOCUMENTATION. The list of deficiencies shall include the estimated date by which the deficiencies will be corrected. The CQC System Manager or staff shall make a second inspection to ascertain that all deficiencies have been corrected.

Once this is accomplished, the Contractor shall notify the Government that the facility is ready for the Government Pre-Final inspection.

#### 3.8.2 Pre-Final Inspection

The Government will perform the pre-final inspection to verify that the facility is complete and ready to be occupied. A Government Pre-Final Punch List may be developed as a result of this inspection. The Contractor's CQC System Manager shall ensure that all items on this list have been corrected before notifying the Government, so that a Final inspection with the customer can be scheduled. Any items noted on the Pre-Final inspection shall be corrected in a timely manner. These inspections and any deficiency corrections required by this paragraph shall be accomplished within the time slated for completion of the entire work or any particular increment of the work if the project is divided into increments by separate completion dates.

#### 3.8.3 Final Acceptance Inspection

The Contractor's Quality Control Inspection personnel, plus the superintendent or other primary management person, and the Contracting Officer's Representative shall be in attendance the final acceptance inspection. Additional Government personnel including, but not limited to, those from Base/Post Civil Facility Engineer user groups, and major commands may also be in attendance. The final acceptance inspection will be formally scheduled by the Contracting Officer based upon results of the Pre-Final inspection. Notice shall be given to the Contracting Officer at least 14 days prior to the final acceptance inspection and shall include the Contractor's assurance that all specific items previously identified to the Contractor as being unacceptable, along with all remaining work performed under the contract, will be complete and acceptable by the date scheduled for the final acceptance inspection. Failure of the Contractor to have all contract work acceptably complete for this inspection will be cause for the Contracting Officer to bill the Contractor for the Government's additional inspection cost in accordance with the contract clause titled "Inspection of Construction".

### 3.9 DOCUMENTATION

The Contractor shall maintain current records providing factual evidence that required quality control activities and/or tests have been performed. These records shall include the work of subcontractors and suppliers and shall be on an acceptable form that includes, as a minimum, the following information:

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- a. Contractor/subcontractor and their area of responsibility.
- b. Operating plant/equipment with hours worked, idle, or down for repair.
- c. Work performed each day, giving location, description, and by whom. When Network Analysis (NAS) is used, identify each phase of work performed each day by NAS activity number.
- d. Test and/or control activities performed with results and references to specifications/drawings requirements. The control phase shall be identified (Preparatory, Initial, Follow-up). List of deficiencies noted, along with corrective action.
- e. Quantity of materials received at the site with statement as to acceptability, storage, and reference to specifications/drawings requirements.
- f. Submittals and deliverables reviewed, with contract reference, by whom, and action taken.
- g. Off-site surveillance activities, including actions taken.
- h. Job safety evaluations stating what was checked, results, and instructions or corrective actions.
- i. Instructions given/received and conflicts in plans and/or specifications.
- j. Contractor's verification statement.

These records shall indicate a description of trades working on the project; the number of personnel working; weather conditions encountered; and any delays encountered. These records shall cover both conforming and deficient features and shall include a statement that equipment and materials incorporated in the work and workmanship comply with the contract. The original and one copy of these records in report form shall be furnished to the Government daily within 24 hours after the date covered by the report, except that reports need not be submitted for days on which no work is performed. Reports shall be prepared in accordance with Section 01312: QUALITY CONTROL SYSTEM (QCS). As a minimum, one report shall be prepared and submitted for every 7 days of no work and on the last day of a no work period. All calendar days shall be accounted for throughout the life of the contract. The first report following a day of no work shall be for that day only. Reports shall be signed and dated by the CQC System Manager. The report from the CQC System Manager shall include copies of test reports and copies of reports prepared by all subordinate quality control personnel.

### 3.10 SAMPLE FORMS

The following sample forms can be obtained from the Resident Management System (RMS).

- a. Construction Quality Control (CQC) Management Report
- b. Preparatory Phase Checklist

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### c. Initial Phase Checklist

#### 3.11 NOTIFICATION OF NONCOMPLIANCE

The Contracting Officer will notify the Contractor of any detected noncompliance with the foregoing requirements. The Contractor shall take immediate corrective action after receipt of such notice. Such notice, when delivered to the Contractor at the work site, shall be deemed sufficient for the purpose of notification. If the Contractor fails or refuses to comply promptly, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to such stop orders shall be made the subject of claim for extension of time or for excess costs or damages by the Contractor.

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#### SECTION 01500

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SECTION 01500

TEMPORARY CONSTRUCTION FACILITIES

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

MINNESOTA DEPARTMENT OF TRANSPORTATION

MNDOT 2575

(2000) Turf Establishment

1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

Site Plan;

The Contractor shall prepare a site plan indicating the proposed location and dimensions of any area to be fenced and used by the Contractor, the number of trailers to be used, avenues of ingress/egress to the fenced area and details of the fence installation. Any areas which may have to be graveled to prevent the tracking of mud shall also be identified. The Contractor shall also indicate if the use of a supplemental or other staging area is desired.

1.3 GROUNDS AND ROADWAYS

1.3.1 Availability of Grounds

The boundary limits of the grounds made available for the Contractor's use during the life of the contract are shown on the drawings. Any additional rights-of-entry or grounds desired by the Contractor shall be obtained by the Contractor at its own expense, and copies of agreements for the use of such rights-of-entry shall be furnished to the Contracting Officer before entering thereon. Such agreements shall clearly relieve the Government of any responsibility for damages resulting from the use of the grounds.

1.3.2 Drainage Facilities

Insofar as natural drainage from the protected areas is obstructed by contract operations, it shall be the Contractor's responsibility to make adequate provision for accommodating such drainage in a satisfactory manner

## Locks 2 & 5 Stoplog Slot Installation

during the life of this contract, either by temporary means or by use of the permanent construction and operation of the permanent facilities.

### 1.4 PAVEMENT REMOVAL AND REPLACEMENT

Where roads are cut, removed, or otherwise damaged in the prosecution of the work the Contractor shall replace all pavements or other surfacings so removed or damaged to their preconstruction condition. After backfill is completed on paved streets, a temporary surface shall be laid down and the street opened to the traffic in order to provide access to abutting property. Restoration of the original street surface construction shall be completed no later than 60 calendar days after starting excavation. Should weather conditions preclude the restoration of the original surface material, temporary resurfacing utilizing a bituminous mixture shall be installed with the final surface constructed no later than June 1 of the following construction season.

### 1.5 AVAILABILITY AND USE OF UTILITY SERVICES

#### 1.5.1 Temporary Electrical Facilities

The Contractor shall be responsible for coordination and costs for electrical power required for the Contractor's operations, including all costs for utility company hookup, installation/dismantling of transformers and distribution lines. In general, the Contractor shall establish its own service connection with the utility company. If the Contractor proposes to use an existing Government service connection, a request shall be submitted for approval to verify the Contractor's use will not interfere with operation of the facilities, and the monthly service fees will be paid for in whole (including Government power consumption) by the Contractor.

#### 1.5.2 Sanitation

The Contractor shall provide and maintain within the construction area field-type sanitary facilities in accordance with EM 385-1-1. These facilities shall include but not be limited to toilet, washing, and drinking water facilities.

#### 1.5.3 Telephone

The Contractor shall make arrangements and pay all costs for their telephone facilities desired. Government personnel will not take or deliver messages for the Contractor.

### 1.6 PROTECTION AND MAINTENANCE OF TRAFFIC

During construction the Contractor shall provide access and temporary relocated roads as necessary to maintain traffic. The Contractor shall maintain and protect traffic on all affected roads during the construction period except as otherwise specifically directed by the Contracting Officer. Measures for the protection and diversion of traffic, including the provision of watchmen and flagmen, erection of barricades, placing of lights around and in front of equipment and the work, and the erection and maintenance of adequate warning, danger, and direction signs, shall be as required by the State and local authorities having jurisdiction. The traveling public shall be protected from damage to person and property. The Contractor's traffic on roads selected for hauling material to and from the site shall interfere as little as possible with public traffic. The



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Contractor shall investigate the adequacy of existing roads and the allowable load limit on these roads. Dust control shall be provided as stated in Section 01355 ENVIRONMENTAL PROTECTION.

### 1.6.1 Off-Site Haul routes

The Contractor shall be responsible for securing all permits required along haul routes. The Contractor shall be the sole permittee and shall be responsible for meeting all obligations of the permits. A copy of each permit shall be submitted to the Contracting Officer. The Contractor, as between the Government and the Contractor, has sole responsibility for damage or deterioration of the Contractor's haul routes.

### 1.6.2 On-Site Haul Roads

The Contractor shall, at its own expense, construct access and haul roads necessary for proper prosecution of the work under this contract. Haul roads shall be constructed with suitable grades and widths; sharp curves, blind corners, and dangerous cross traffic shall be avoided. The Contractor shall provide necessary lighting, signs, barricades, and distinctive markings for the safe movement of traffic. The method of dust control, although optional, shall be adequate to ensure safe operation at all times. Location, grade, width, and alignment of construction and hauling roads shall be subject to approval by the Contracting Officer. Lighting shall be adequate to assure full and clear visibility for full width of haul road and work areas during any night work operations. Upon completion of the work, haul roads designated by the Contracting Officer shall be removed.

### 1.6.3 Barricades

The Contractor shall erect and maintain temporary barricades to limit public access to hazardous areas. Such barricades shall be required whenever safe public access to paved areas such as roads, parking areas or sidewalks is prevented by construction activities or as otherwise necessary to ensure the safety of both pedestrian and vehicular traffic. Barricades shall be securely placed, clearly visible with adequate illumination to provide sufficient visual warning of the hazard during both day and night.

## 1.7 CONTRACTOR'S TEMPORARY FACILITIES

### 1.7.1 Administrative Field Offices

The Contractor shall provide and maintain administrative field office facilities within the construction area at the designated site. Government office and warehouse facilities will not be available to the Contractor's personnel.

### 1.7.2 Staging Area

The boundary limits of the grounds made available for the Contractor's use during the life of the contract are shown on the drawings as Work Limits. Trailers, materials, or equipment shall not be placed or stored outside the work limits.

## 1.8 PLANT COMMUNICATION

Whenever the Contractor has the individual elements of its plant so located that operation by normal voice between these elements is not satisfactory,

## Locks 2 & 5 Stoplog Slot Installation

the Contractor shall install a satisfactory means of communication, such as telephone or other suitable devices. The devices shall be made available for use by Government personnel.

### 1.9 TEMPORARY PROJECT SAFETY FENCING

Prior to the commencement of work, the Contractor shall furnish and erect temporary project safety fencing at the work site. The safety fencing shall be a high visibility orange colored, high density polyethylene grid or approved equal, a minimum of 42 inches high, supported and tightly secured to steel posts located on maximum 10 foot centers. The safety fencing shall be maintained by the Contractor during the life of the contract and, upon completion and acceptance of the work, shall become the property of the Contractor and shall be removed from the work site.

## PART 2 PRODUCTS

### 2.1 BULLETIN BOARD, PROJECT SIGN, AND PROJECT SAFETY SIGN

#### 2.1.1 Bulletin Board

Immediately upon beginning of work, the Contractor shall provide a weatherproof glass-covered bulletin board not less than 36 by 48 inches in size for displaying the Equal Employment Opportunity poster, a copy of the wage decision contained in the contract, Wage Rate Information poster, and other information approved by the Contracting Officer. The bulletin board shall be located at the project site in a conspicuous place easily accessible to all employees, as approved by the Contracting Officer. Legible copies of the aforementioned data shall be displayed until work is completed. Upon completion of work the bulletin board shall be removed by and remain the property of the Contractor.

#### 2.1.2 Project and Safety Signs

The Contractor shall furnish and erect a Project sign and a Safety sign in a location selected by the Contracting Officer at the project site within 15 days after receipt of the notice to proceed. The requirements for the signs and their content shall be as shown on the drawings at the end of this section. The data required by the safety sign shall be corrected daily. Signs shall be maintained throughout the construction period, and upon completion of the project, the signs shall be removed from the site. The PROJECT DESCRIPTION and PROJECT NAME shall be as follows for Lock and Dam #2:

PROJECT DESCRIPTION: STOPLOG SLOT INSTALLATION

PROJECT NAME: LOCK AND DAM #2

and for Lock and Dam #5:

PROJECT DESCRIPTION: STOPLOG SLOT INSTALLATION

PROJECT NAME: LOCK AND DAM #5

### 2.2 GOVERNMENT FIELD OFFICE

The Contractor is not required to provide a Government field office under this contract.

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### PART 3 EXECUTION

#### 3.1 CLEANUP

Construction debris, waste materials, packaging material and the like shall be removed from the work site. Any dirt or mud which is tracked onto paved or surfaced roadways shall be cleaned away. Materials resulting from demolition activities which are salvageable shall be stored within the fenced area described above or at the supplemental storage area. Stored material not in trailers, whether new or salvaged, shall be neatly stacked when stored.

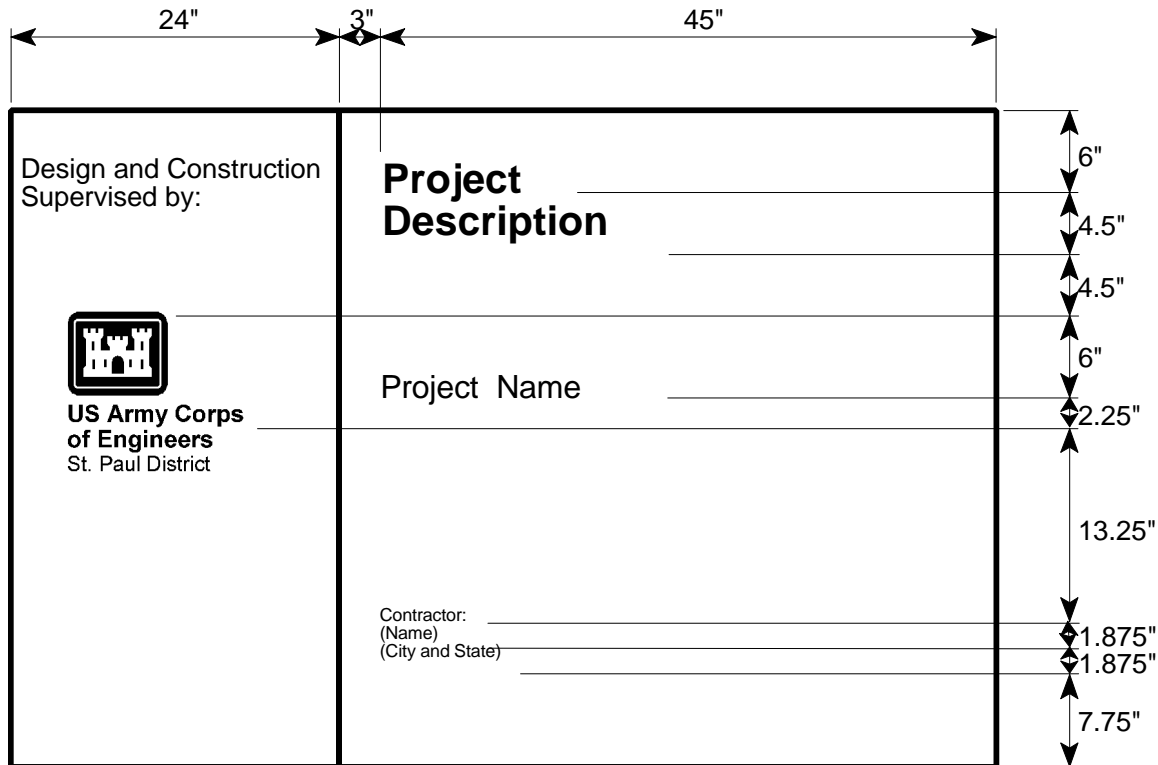
#### 3.2 RESTORATION OF STORAGE AREA

Upon completion of the project and after removal of trailers, materials, and equipment from within the fenced area, the fence shall be removed and will become the property of the Contractor. Areas used by the Contractor for the storage of equipment or material, or other use, shall be restored to the original or better condition. Gravel used to traverse grassed areas shall be removed and the area restored to its original condition, including top soil and sod in accordance with MNDOT 2575.

-- End of Section --

## PROJECT SIGN

The graphic format for this 4' x 6' sign panel follows the legend guidelines and layout as specified below. The large 4' x 4' section of the panel on the right is to be white with black legend. A 2' x 4' decal provided by the Corps shall be placed on the left side of the sign panel.



### Project Description:

One to three line project title legend describes the work being done under this contract.  
Color: Black; Typeface: 3" Helvetica Bold; Maximum line length: 42".

### Project Name:

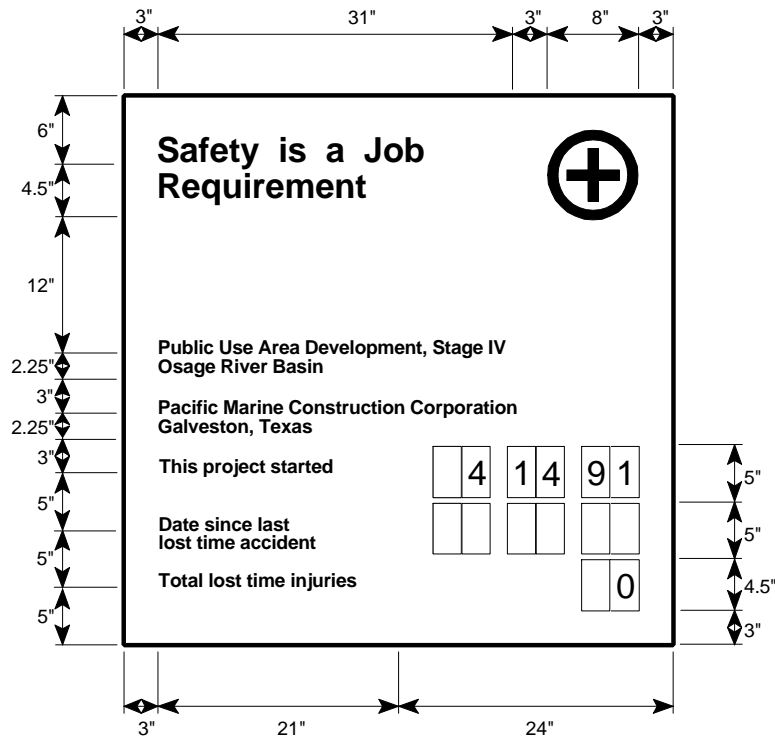
One to three line identification of project or facility.  
Color: Black; Typeface: 1.5" Helvetica Bold; Maximum line length: 42".  
Cross-align the first line of PROJECT NAME with the first line of the Corps Signature as shown.

### Contractor:

One to five line identification of prime contractors including: type (architect, general contractor, etc.), corporate or firm name, city, state.  
Color: Black; Typeface: 1.25" Helvetica Bold; Maximum line length: 21".

All typography is flush left and ragged right, upper and lower case with initial capitals only as shown. Letter and word spacing to follow Corps Standards (EP 310-1-6a and 6b).

## SAFETY SIGN



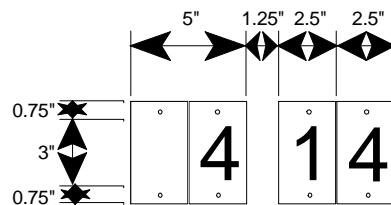
All typography is flush left and rag right, upper and lower case with initial capitals only as shown. Letter and word spacing to follow Corps Standards (EP 310-1-6a and 6b).

Legend Group 1: Standard two-line title "Safety is a Job Requirement" with (8" od.) Safety Green First Aid logo. Typeface: 3" Helvetica Bold; Color: Black.

Legend Group 2: One- to two-line project title legend describes the work being done under this contract and name of host project. Typeface: 1.5" Helvetica Regular; Color: Black; Maximum line length: 42".

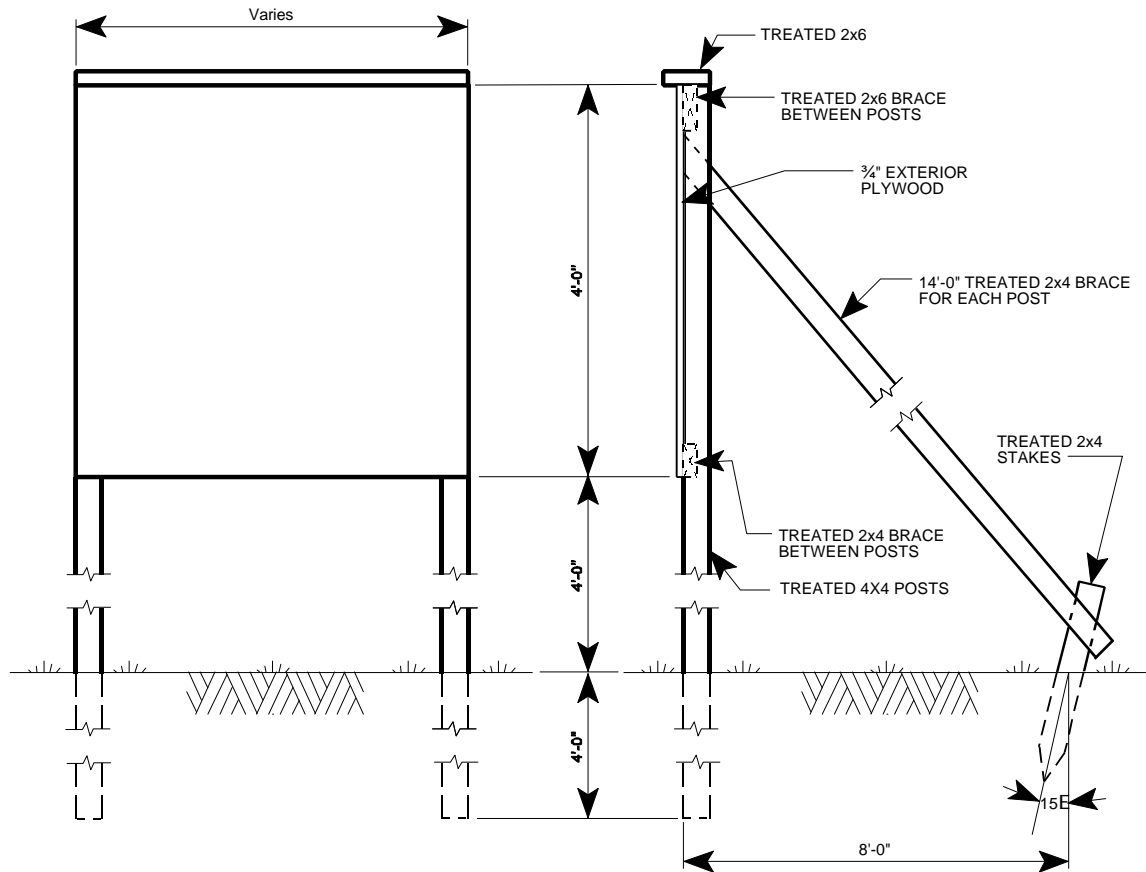
Legend Group 3: One- to two-line identification: name of prime contractor and city, state address. Typeface: 1.5" Helvetica Regular; Color: Black; Maximum line length: 42".

Legend Group 4: Standard safety record captions as shown. Typeface: 1.25" Helvetica Regular; Color: Black.



Replaceable numbers are to be mounted on white 0.060 aluminum plates and screw-mounted to background. Typeface: 3" Helvetica Regular; Color: Black; Plate size: 2.5" x 4.5".

## SIGN ERECTION DETAILS



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## SECTION 01720

### CONTRACTOR SURVEYS

PART 1 GENERAL (NOT APPLICABLE)

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

#### 3.1 FIELD LAYOUT SURVEYS

The Contractor shall layout the work from the Government established bench marks in accordance with CONTRACT CLAUSE 52.236-17 LAYOUT OF WORK. The construction of each feature of work shall follow the alignments as indicated on the drawings. The Contractor shall have in place, at least 7 calendar days prior to commencing construction operations, sufficient stakes and markings to enable the Contracting Officer to observe the field layout of the alignment and limits of each feature of work. For each feature of work, these stakes shall define areal limits such that the Contracting Officer can easily determine, without additional surveys, if alignment and/or limit adjustments need to be made. For buildings and similar work, the building corners and grid lines shall be staked. General site work shall be staked to define staging areas, storage areas, and other area limits as directed. The Contracting Officer may waive these requirements for certain areas. The layout shall be sufficient for the Contracting Officer to mark trees, vegetation and other features to be left undisturbed. No work shall take place without approval of field layout by the Contracting Officer.

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SECTION 01780

CLOSEOUT SUBMITTALS

PART 1 GENERAL

1.1 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-11 Closeout Submittals

As-Built Drawings; G,GEN

Contractor record drawings showing final as-built conditions of the project.

1.2 As-Built Drawings

Paper prints and reproducible drawings will become the property of the Government upon final approval. Failure to submit final as-built drawings and marked prints, as required herein, will be cause for withholding payment due the Contractor under this contract. These drawings shall be furnished to the Contracting Officer within 30 days after the required contract completion date. Approval and acceptance of final as-built drawings shall be accomplished before final payment is made to the Contractor.

1.3 CONTRACTOR RECORD DRAWINGS

The Contractor shall maintain a separate set of marked-up full-scale contract drawings indicating as-built conditions. These drawings shall show all changes and revisions made up to the time the work is completed and accepted. These drawings shall be maintained in a current condition at all times until completion of the work and shall be available for review by Government personnel at all times. All variations from the contract drawings, for whatever reason, including those occasioned by modifications, optional materials, and the required coordination between trades, shall be indicated.

1.3.1 Changes and Corrections

The working and final as-built drawings shall show, but shall not be limited to, the following information:

- a. Correct grade, elevations, cross section, or alignment of structures or utilities if any changes were made from contract plans.
- b. The location and dimensions of any changes within buildings or structures.
- c. Changes in details of design.

## Locks 2 & 5 Stoplog Slot Installation

- d. Systems designed or enhanced by the Contractor.

### 1.2.6 Drawing Standards

- a. Deleted items shall be indicated in red.
- b. Added items or changed locations shall be shown in green.
- c. Variations shall be shown in the same general detail utilized in the contract drawings.
- d. Revisions shall be shown on all drawings and details related to the changed feature.
- e. All markups shall be neat, clean and legible.
- f. Where contract drawings or specifications present options, only the option selected for construction shall be shown.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

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## SECTION 02100

### CONCRETE WIRE SAWING

#### PART 1 GENERAL

##### 1.1 SCOPE

The work covered by this section consists of providing all equipment, materials and all operations necessary for the partial demolition of concrete by wire sawing. Approval of alternative demolition methods in the vicinity of the filling and emptying culverts are subject to approval by the Contracting Officer.

##### 1.2 GENERAL REQUIREMENTS

###### 1.2.1 General

Wire sawing, except in areas in which concrete is to be removed by mechanical demolition as specified in section 02220: STRUCTURAL DEMOLITION, shall be performed to remove concrete on the Land Wall and Intermediate Wall to the limits indicated on the drawings. Removal of concrete shall be accomplished using equipment incorporating diamond-cutting tools. Small hand held low-impact breakers, or chipping hammers, may be allowed to supplement the diamond cutting techniques, however, large impact hammers and other large vibratory impact tools and breakers will not be permitted. All operations specified herein shall be performed and supervised in such a manner as to maintain the structural integrity of the concrete surfaces which are to remain. Alternative concrete removal methods to wire sawing that will not in any way damage or crack the existing concrete to remain between the stoplog slots and culvert and which meet the requirements of Section 02220: STRUCTURAL DEMOLITION are subject to approval by the Contracting Officer.

##### 1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

###### SD-01 Preconstruction Submittals

Work Plan; G, STR

The Contractor shall submit a statement describing the proposed plan for performing the work. The plan shall be submitted and approved 30 days prior to commencement of work. The submitted plan shall include, but shall not be limited to, the proposed methods and sequence of operations for concrete removal, details of procedures to control dust, and the collection and disposal of cutting slurry. This plan and the plan required by section 02220:

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STRUCTURAL DEMOLITION shall be combined.

Equipment; G, STR

The Contractor shall submit a statement describing the equipment proposed for use in performing the work 30 days prior to commencement of work. The submitted statement shall include manufacturers literature for the equipment proposed for the drilling and wire sawing operation.

Experience; G, STR

Submit documentation of experience and previous projects of similar scope 30 days prior to commencement of work.

### 1.4 ENVIRONMENT PROTECTION

#### 1.4.1 General

The work shall comply with the requirements of Section 01330: ENVIRONMENTAL PROTECTION.

### PART 2 PRODUCTS (Not Applicable)

### PART 3 EXECUTION

#### 3.1 Experience

Cutting of existing concrete by use of diamond cutting techniques shall be performed by workers experienced in operating the required equipment. Individuals in charge of the operations shall have a minimum of three years of experience and shall have worked on a minimum of five jobs of a scope equivalent to this project in the depth and accuracy shown and specified. The experience shall have been completed in the five-year period prior to the commencement of this contract and shall consist of direct involvement or direct supervision of the work. Individuals in charge of the operations shall have direct supervision of all operations. Direct supervision means being on the lockwall for the entire operation and providing instruction and direction to ensure all operations meet contract requirements.

#### 3.2 Protection

The Contractor shall provide temporary barricades and other forms of protection as required to protect personnel and workers from injury due to demolition work. The Contractor shall provide protective measures as required to provide free and safe passage of lock personnel and workers to and from occupied portions of land and intermediate wall.

#### 3.3 Drilling

Drilling method used for wire access holes may be done by diamond core drilling or percussion drilling. Core drilling equipment, if used, shall consist of a double-tube core barrel with a minimum capacity of 10 feet of core. Drill hole size and location shall be determined by the Contractor. Holes shall be drilled to the bottom of removal section, as shown, with equipment competent to maintain the alignment and plane of the demolition face throughout the full depth of the holes. The Contractor shall control

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his drilling operations by the use of proper equipment and technique to insure that no hole shall deviate from the plane of demolition by more than the specified tolerances in paragraph 3.5 TOLERANCES. All percussion drilling equipment used to drill holes shall have electro-mechanical or electronic devices affixed to that equipment to accurately determine the angle at which the drill steel enters the concrete. Drilling will not be permitted if these devices are either missing or inoperative. Holes shall be measured for accuracy immediately after drilling. If holes are determined to be outside of the specified tolerances, holes shall be filled with concrete and re-drilled as directed by the Contracting Officer, at no additional cost to the Government.

### 3.4 Disposal

The Contractor shall determine the means and methods necessary to facilitate lifting and handling the material removed by wire sawing. The Contractor shall provide required hoists, cranes, lifts, etc. to remove, handle, load, and haul away cut segments of concrete. See section 02220: STRUCTURAL DEMOLITION for additional disposal requirements.

### 3.5 Tolerances

#### 3.5.1 Overcutting

Overcutting beyond the limits of demolition shown on the drawing will be prohibited. Means for verifying hole alignment for cutting operations shall be provided and described in the Work Plan. A daily record of alignment measurements shall be maintained during cutting operations and provided to the Contracting Officer's Representative.

#### 3.5.2 Undercutting

Any concrete remaining within 3-inches of the demolition limits shown on the drawings (under cutting) shall be removed. Alternate diamond tool methods such as, but not limited to: wire sawing, core drilling or diamond chain sawing, ring sawing of undercuts will be permitted. Alternate methods of removing undercutting shall be subject to the approval of the Contracting Officer.

#### 3.5.3 Borehole Plumbness

Boreholes drilled in conjunction with concrete wire sawing shall not deviate from the plane of demolition by more than 2 inches along the entire depth of the hole.

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# Locks 2 & 5 Stoplog Slot Installation

## SECTION 02220

### STRUCTURAL DEMOLITION

#### PART 1 GENERAL

##### 1.1 Scope

Work covered under this section includes removal, disposal or salvage of concrete, embedded steel and appurtenant items from the lock land wall and intermediate wall.

##### 1.2 GENERAL REQUIREMENTS

Contractor shall determine the means and methods of demolition, in accordance with these specifications, which provides the rates of production to complete the work within the established time limits and which prevents damage to items and portions of the facility that are to remain. Collateral damage shall be repaired by the Contractor to the satisfaction of the Contracting Officer at no additional expense to the Government. In the interest of occupational safety and health, the work shall be performed in accordance with EM 385-1-1 and 29 CFR 1926.

##### 1.3 LEAD-CONTAINING PAINT

Orange primer, yellow, red and silver paint on existing metal surfaces is lead containing. Items with lead based paint include and are not limited to: armor/edge protection, fixed mooring bits, ladders, kevels, check posts and miscellaneous metal items. See Section 09965: Painting, Hydraulic Structures and Machinery, for requirements for working with items coated with lead-containing paint.

##### 1.4 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

#### AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI A10.6	(1990) Safety Requirements for Demolition Operations
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#### CODE OF FEDERAL REGULATIONS (CFR)

29 CFR 1926.62	Safety and Health Regulations for Construction - Lead
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#### U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

29 CFR 1926	Safety and Health Regulations for Construction
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U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1

(1996) U.S. Army Corps of Engineers Safety  
and Health Requirements Manual

### 1.5 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only or as otherwise designated. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

#### SD-01 Preconstruction Submittals

Work Plan; G, STR

The procedures proposed for the accomplishment of the work shall be submitted and approved 30 days prior to commencement of work. The procedures shall provide for safe conduct of the work, including procedures and methods to provide necessary supports, lateral bracing and shoring when required, careful removal and disposition of materials specified to be salvaged, protection of property which is to remain undisturbed, coordination with other work in progress, and anticipated disconnections of utility services. The procedures shall include a detailed description by location of the methods and equipment to be used for each operation, and the sequence of operations in accordance with EM 385-1-1. This plan and the plan required by section 02100: CONCRETE WIRE SAWING shall be combined.

Lead Hazard Control Plan;

The plan shall describe procedures for identifying and removing items coated with lead-containing paint in conformance with 29 CFR 1926.62. If lead-containing paints are to be removed separately from the item coated, requirements of Section 09965: Painting, Hydraulic Structures and Machinery shall be met.

#### SD-07 Certificates

Hazardous Waste Manifest; G, CO

If lead-containing material is disposed of, the Contractor shall submit a Hazardous Waste Manifest to the Contracting Officer, attesting that the materials were transported to and disposed of at a state-approved site.

### 1.6 REGULATORY AND SAFETY REQUIREMENTS

Comply with federal, state, and local hauling and disposal regulations. In addition to the requirements of the "Contract Clauses," safety requirements shall conform with ANSI A10.6.

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### 1.7 DUST CONTROL

The amount of dust resulting from demolition shall be controlled to prevent the spread of dust to occupied portions of the construction site, and to avoid creation of a nuisance in the surrounding area. The Contractor shall ensure that all miter gate, tainter valve and tow haulage operating equipment/components and exposed gears are protected from dust contamination. Use of water will not be permitted when it will result in, or create, hazardous or objectionable conditions such as ice, flooding and pollution, or be detrimental to existing equipment to remain.

### 1.8 PROTECTION

#### 1.8.1 Protection of Personnel

During the demolition work the Contractor shall continuously evaluate the condition of the portions of the structure being demolished and take immediate action to protect all personnel working in and around the demolition site. No area, section, or component of structural element to be removed will be allowed to be left standing without sufficient bracing, shoring, or lateral support to prevent collapse or failure while workmen remove debris or perform other work in the immediate area. The Contractor shall ensure that no elements of existing structure to remain and determined to be unstable during demolition work are left unsupported, and shall be responsible for placing and securing bracing, shoring, or lateral supports as may be required as a result of any cutting, removal, or demolition work performed under this contract.

#### 1.8.2 Existing Work

Before beginning any demolition work, the Contractor shall survey the site and examine the drawings and specifications to determine the extent of the work. The Contractor shall take necessary precautions to avoid damage to existing items to remain in place, to be reused, or to remain the property of the Government; any damaged items shall be repaired or replaced as approved by the Contracting Officer at no additional cost to the Government. The Contractor shall coordinate the work of this section with all other work and shall construct and maintain shoring, bracing, and supports as required. The Contractor shall ensure that structural elements are not overloaded and shall be responsible for increasing structural supports or adding new supports as may be required as a result of any cutting, removal, or demolition work performed under this contract.

#### 1.8.3 Lock Floor

If the chosen method of demolition results in pieces of concrete and other material falling from the walls onto the floor, measures, approved by the Contracting Officer, shall be taken to prevent falling debris from damaging the lock floor. All concrete debris or other materials resulting from the Contractor's demolition shall be removed from the lock floor and disposed of by the Contractor.

#### 1.8.4 Protection From the Weather

Portions of existing structures to remain shall be protected from the deleterious effects of weather while they are exposed.

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### 1.8.5 Environmental Protection

The work shall comply with the requirements of SECTION 01355.

### 1.8.6 Facilities

Protect electrical and mechanical services and utilities. Where removal of existing utilities and pavement is specified or indicated, provide approved barricades, temporary covering of exposed areas, and temporary services or connections for electrical and mechanical utilities. Floors, roofs, walls, columns, pilasters, and other structural components that are designed and constructed to stand without lateral support or shoring, and are determined to be in stable condition, shall remain standing without additional bracing, shoring, or lateral support until demolished, unless directed otherwise by the Contracting Officer. The Contractor shall ensure that no elements determined to be unstable are left unsupported and shall be responsible for placing and securing bracing, shoring, or lateral supports as may be required as a result of any cutting, removal, or demolition work performed under this contract.

### 1.9 BURNING

The use of burning at the project site for the disposal of refuse and debris will not be permitted.

### 1.10 USE OF EXPLOSIVES

Use of explosives will not be permitted.

### 1.11 AVAILABILITY OF WORK AREAS

See Section 01000: GENERAL and Section 01140: WORK RESTRICTIONS for availability of the work area.

## PART 2 PRODUCTS (Not Applicable)

## PART 3 EXECUTION

### 3.1 CONCRETE REMOVAL

#### 3.1.1 General

No work shall commence until the Contractor has received the Contracting Officer's approval of the work plan in writing. Concrete and embedded metals and appurtenances shall be removed only as indicated on the contract drawings or as directed by the Contracting Officer. After the concrete has been removed, any remaining unsound concrete that results from demolition, as determined by the Contracting Officer, shall be removed at no cost to the Government. See paragraph INSPECTION OF CONCRETE SURFACES, below. The Contractor shall only propose means and methods to remove concrete and embedded items which provide sufficient production rates to allow the work to be completed within the time limits established.

#### 3.1.2 Power Tools

The Contractor may use sawing equipment, air, electric or hydraulic-driven chipping hammers, impactors, splitters and rotary grinding equipment for

## Locks 2 & 5 Stoplog Slot Installation

concrete removal unless noted otherwise. Precautions shall be taken to prevent power equipment from vibrating on reinforcing steel. Removal of embedded metals shall be by saw cutting or flame cutting with ends of items to remain ground free of burrs, sharp edges and surface projections. All demolition equipment shall be subject to the approval of the Contracting Officer.

### 3.1.3 Expansive Agents

Because of the potential for expansive agents to seep into existing cracks, causing damage beyond the intended demolition limits, chemical agents may only be used when steps are taken to prevent intrusion of the agent into intersecting cracks and fissures or where there is no possibility of flow of the agent into concrete beyond the demolition limits.

### 3.1.4 Limits of Concrete Demolition

Contractor shall remove concrete from monoliths to the limits shown on drawings. Upon completion of any and all concrete removal, the Contractor shall confirm the limits of demolition by inspection. The inspection shall be performed in the presence of the Contracting Officer and sufficient notice of the date of inspection shall be provided. Any additional concrete removal required as a result of the inspection shall be done at no additional cost to the Government. No additional payment will be made for material removed beyond the excavation limits (overbreak) nor for the extra effort and material to restore the area.

### 3.1.5 Sawcutting

Sawcutting to required depth shall be used where shown on drawings. In addition, on horizontal and vertical surfaces which will be exposed after construction and where new concrete will meet existing concrete which remains, the concrete surface shall be sawcut before concrete removal to produce a clean line between new and existing concrete.

### 3.1.6 Trimming

Sufficient concrete shall be removed at edges of demolition areas to prevent feather edges when new concrete is placed. Sharp protuberances of concrete above the surrounding area shall be removed. All 90-degree or sharper corners in existing concrete which remain after demolition and are to be surrounded by new concrete are to be broken to remove sharp corners. Minimum acceptable break is a 3" x 3" chamfer. Sawcut edges shall not be chamfered.

### 3.1.7 Surface Cleanup

Surfaces of existing concrete against which new concrete is to be cast shall be cleaned of all dirt, dust and debris by air, sand or water blasting. Existing, finished or formed concrete surfaces against which new concrete is to be cast shall be roughened to a 1/4 inch minimum amplitude.

## 3.2 INSPECTION OF CONCRETE SURFACES

The Contractor shall inspect any and all concrete surfaces that remain after demolition in the presence of the Contracting Officer. The method of inspection shall be sounding with a geologist's hammer and noting areas with a hollow sound. The Contracting Officer shall be notified when the Contractor will test the concrete. Findings shall be submitted for record

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to the Contracting Officer for file or action as appropriate. The submittal shall include narrative and sketches including location and size of deficiency.

### 3.3 REPAIR OF UNSOUND CONCRETE SURFACES

When inspection of concrete surfaces resulting from demolition indicates that unsound concrete remains, the Contractor shall remove such unsound concrete by mechanical means until the resulting surface is sound, as indicated by a second inspection. Removal of concrete which was rendered unsound by demolition efforts, and subsequent reinspection, shall be at the Contractor's expense.

### 3.4 CONDUIT BANKS

All known conduits carrying electrical conductors are shown on the contract drawings and reference drawings. The Contractor shall become thoroughly familiar with the locations of electrical conductors before submitting the work plan. Electrical conductors, both power and control, shall be decommissioned before demolition in the vicinity of the electrical conductors commences. When electrical conductors are encountered that are not indicated on the drawings, the Contracting Officer shall be notified prior to further work in that area.

### 3.5 NEW STOPLOG RECESSES

Concrete demolition for new upstream and downstream stoplog recesses along the landwall and intermediate wall involves removal of concrete adjacent to the filling and emptying culverts. Removal of this concrete will reduce the thickness of the wall of the culvert. There will be a net outward pressure on the wall when the cofferdam used for recess construction is unwatered, since there will be water under pressure inside the culvert. For concrete removal adjacent to the culvert and within two feet of the top of the culvert, wire sawing or other approved method that will not in any way damage or crack the existing concrete to remain between the stoplog slots and culvert shall be used. The demolition in this area shall not compromise the integrity of the section of the culvert wall shown as remaining. If wire sawing will be used see specification section 02100: CONCRETE WIRE SAWING. Alternative methods of concrete removal which do not compromise the integrity of the section of the culvert wall in this area are subject to approval by the Contracting Officer.

### 3.6 DISPOSITION OF MATERIAL

Title to material and equipment to be demolished and disposed of is vested in the Contractor upon receipt of Notice To Proceed. The Government will not be responsible for the condition, loss or damage to such property after notice to proceed.

#### 3.6.1 Storage

Contractor shall remove and store all items designated on drawings for reinstallation. Items shall be stored at a location approved by the Contracting Officer. The Contractor shall be responsible for protection of the items while in storage. Any items damaged during removal, while in storage or when reinstalled shall be repaired or replaced, at the Contracting Officer's option, at no additional cost to the Government.

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### 3.6.2 Salvageable Items and Material

Contractor shall salvage items and material to the maximum extent possible.

#### 3.6.2.1 Material Salvaged for the Contractor

Material salvaged for the Contractor shall be stored as approved by the Contracting Officer and shall be removed from Government property before completion of the contract. Material salvaged for the Contractor shall not be sold on site.

#### 3.6.2.2 Material Salvaged for the Government

Material to be salvaged for the Government shall be removed and transported without damage by the Contractor to a location on the site designated by the Contracting Officer. Items to be removed and salvaged for the Government are as follows:

- a. Anchor bars and their components removed and not re-used.
- b. Bubbler piping and piping accessories removed for cofferdam installation.

### 3.6.3 Unsalvageable Material

All unsalvageable material containing lead-containing paint shall be disposed of in accordance with paragraph Lead-Containing Paint, below. All other unsalvageable material shall be disposed of in accordance with the paragraph entitled DISPOSAL.

### 3.6.4 Lead-Containing Paint

Any metal coated with lead-containing paint shall be sold as scrap for reprocessing into new metal, or disposed of at an approved disposal site authorized to receive such materials. If disposed of, the Contractor shall submit a Certified Uniform Hazardous Waste Manifest to the Contracting Officer, attesting that the materials were disposed of at a state-approved site.

## 3.7 DISPOSAL

### 3.7.1 General

Disposal of items, and debris shall be in accordance with the following subparagraph. Based on the requirements hereunder, the Contractor shall investigate the most feasible and economical method(s) of disposing of the byproducts of the demolition and removal operations, which is most advantageous to the Government, and shall reflect this method in his work plan. The methods of disposal shall be detailed within the Contractor's work plan and shall be subject to the approval of the Contracting Officer. All expenses of arranging for such area(s) shall be borne by the Contractor. Disposal operations on the area shall conform to the requirements imposed by the owner or owners of the property and shall be subject to the approval of the Contracting Officer and in accordance with the requirements specified herein.

### 3.7.2 Contractor's Property

With the exception of items specified to be reinstalled, or returned to the



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Government, all removed items shall become the property of the Contractor and shall be removed from the site by the Contractor. These items shall be disposed of in a disposal area(s) to be obtained and arranged for by the Contractor.

### 3.7.3 Foreknowledge

The Contractor shall make himself aware, prior to bid submittal, of the nature and approximate quantities of the materials to be disposed. This includes concrete, wiring, wiring coatings, and other materials attached to or embedded in the concrete to be removed. The site shall be available for inspection by and at the request of the Contracting Officer.

### 3.7.4 Owner's Consent

The Contractor shall obtain written consent of the owner(s) of the property on which the disposal will be made and shall furnish evidence thereof to the Contracting Officer. The Contractor's agreement with the property owner(s) shall contain a clause fully releasing the Government of all liability associated with the Contractor's operations in connection with the disposal. Approval of the agreement shall not relieve the Contractor from responsibility for all operations in connection with disposal, including compliance with all Federal, State, and local laws and regulations.

### 3.7.5 Protection of Watercourses

All material rejected as unsuitable for re-use by the Contracting Officer shall not be permitted on lands where the material would be subject to flooding or subsequent transportation to the river, its tributaries, or other watercourses.

### 3.8 CLEAN UP

Debris shall be removed and transported in a manner that prevents spillage on streets or adjacent areas. Federal, state and local regulations regarding hauling and disposal shall apply. Demolished material shall not be off-loaded from barges to land-based transportation vehicles within the limits of the project site outside the closure period defined in Section 01000.

-- End of Section --

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COFFERDAMS

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SECTION 02240

COFFERDAMS

PART 1 GENERAL

1.1 SCOPE OF WORK

Cofferdams are required for in-the-dry construction of the lock chamber stoplog recesses in the landwall and intermediate wall of the main lock.

1.1.1 Design

Design of the cofferdams are the responsibility of the Contractor. The Contractor shall engage a registered engineer to be in responsible charge of the design and to seal the design.

1.1.2 Installation and Dewatering

The Contractor shall provide all labor, equipment and materials to install, dewater, and maintain all cofferdams. The design of the dewatering systems shall be submitted before work is begun and be revised in accordance with site conditions. Dewatering design and the capacity of the equipment shall be in accordance with sound engineering practice. The Contractor shall operate and maintain all cofferdams and dewatering systems to maintain a water-free environment for the construction activities, which are to be performed in-the-dry. The cofferdams must rest entirely on the concrete sill structure; it must not rest on sand, soil or any other loose material likely to flow into cofferdam when water is removed. The cofferdam shall be built to the same height as the top of the lock wall.

1.1.3 Protection

While the cofferdams are installed, the Contractor shall provide protection to prevent damage to the cofferdams. To control the amount of ice accumulation within the lock chamber, it is necessary to release water through the upstream culvert valves. The Contractor should anticipate flowrates of 500 cfs at lock 2 and 1000 cfs at Lock 5 in the vicinity of the cofferdams during the period in which the cofferdams are installed and maintained.

1.1.4 Removal and Disposal

After completion of in-the-dry construction activities, the Contractor shall rewater the cofferdams, remove from government property and dispose of in accordance with all local, state and federal requirements. Any brackets or attachments to the lock walls or floor shall be removed and the lock walls and floor returned to their original condition. Restoration of the lock walls and floor to their original condition includes, but is not limited to, filling holes in concrete with an epoxy grout, removing welds from metal surfaces and grinding and repainting the metal surfaces.

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### 1.1.5 Responsibility

The Contractor shall be responsible for design and maintenance of all cofferdams which the Contractor proposes to install.

### 1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

#### SD-02 Shop Drawings

Design Drawings; G, STR

The Contractor shall submit drawings showing the proposed design for the cofferdams a minimum of 30 days prior to start of construction of the cofferdam. Drawings shall be sealed by a registered professional engineer.

#### SD-05 Design Data

Dewatering System; G, STR

The Contractor shall submit data, including drawings, describing the procedures, layout, equipment and capacity of the dewatering system a minimum of 30 days prior to start of construction.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

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# Locks 2 & 5 Stoplog Slot Installation

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# Locks 2 & 5 Stoplog Slot Installation

## SECTION 02490

### TEMPORARY SUPPORT AND PROTECTION OF MITER GATES DURING CONSTRUCTION

#### PART 1 GENERAL

##### 1.1 SCOPE

The work covered by this section consists of providing all equipment, materials and labor for temporary blocking and guying the existing downstream main lock miter gates.

##### 1.2 QUALITY CONTROL

###### 1.2.1 General

The Contractor shall establish and maintain quality control for all operations to assure compliance with contract requirements and maintain records of quality control for all operations including but not limited to the following:

- (1) Materials.
- (2) Fabrication and Workmanship.
- (3) Installation.

###### 1.2.2 Reporting

A copy of the records and tests, as well as the records of corrective action taken, shall be furnished to the Government daily.

##### 1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with SECTION 01330: SUBMITTAL PROCEDURES:

Work Plan; G, STR

The Contractor shall submit a statement describing the proposed plan for performing the work 30 days prior to commencement of work.

Equipment; G, STR

The Contractor shall submit a statement describing the equipment proposed for use in performing the work at the site 30 days prior to commencement of work.

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### PART 2 PRODUCTS

#### 2.1 Painting

Paint surfaces on the miter gate leafs or appurtenant items that become damaged during the Contractors handling shall be prepared and painted in accordance with the requirements of SECTION 09965, PAINTING: HYDRAULIC STRUCTURES AND MACHINERY.

### PART 3 EXECUTION

#### 3.1 General

During the removal of the miter gate anchorages, the Contractor shall temporarily support the downstream miter gates within the lock. The approximate weight of each miter gate leaf is 205,000 lbs. The Contractor shall be responsible for adjusting the anchor bars, installing any necessary bearing casting shims, and adjusting the miter seals.

#### 3.2 Temporary Support For Miter Gates

The temporary support shall consist of an arrangement of wood blocking and guy lines. The miter gate leafs may be positioned in the miter gate recess for this purpose. However, the miter gate leafs must be protected during concrete demolition and supports and guying lines must not be disturbed. The contractor shall determine a safe arrangement for the temporary support elements and submit a plan for Government approval in accordance with SECTION 01330: SUBMITTAL PROCEDURES. After the new anchorage and anchor bars are installed, the Contractor shall adjust the miter gates in accordance with paragraph ADJUSTMENT OF MITER GATES.

#### 3.3 TEMPORARY SUPPORT AND INSTALLATION OF MITER GATES ANCHOR BARS

##### 3.3.1 Inspection of Miter Gate Recesses

Prior to installation of the temporary supports for the miter gate leafs and removing any miter gate anchorage components, the Contractor shall employ a diver to conduct a survey of the miter gate recess floor that addresses the condition of concrete and the amount silt and debris that may have accumulated in the recess. The Contractor shall furnish a written report of this survey to the Contracting Officer. The Contractor shall not proceed with installation of temporary supports until the survey has been submitted and approved by the Contracting Officer and all materials found during the survey within the recess are removed.

##### 3.3.2 Lock 2

###### 3.3.2.1 Removal Procedure for Miter Gate Anchor Bars - Lock 2

The miter gate leafs shall be in the open position within the miter gate recess and existing walkway aprons S13 removed and stored for reinstallation. During the removal procedure, the anchor bars 21/17-7(interior) and 21/17-8(lockface), shown on reference drawing M-L2-21/16 and 21/17, shall be supported by blocking or other means to prevent damage to gate anchors GAl. Prior to removing the gudgeon pin GP1, the gate leaf shall be slightly raised, just to the point that load to the gudgeon pin is relieved. Once the load to the gudgeon pin is relieved, the

## Locks 2 & 5 Stoplog Slot Installation

miter gate shall be blocked and secured with guy lines or other approved means temporarily supporting the miter gate leaf. At this point gudgeon pin GP1 shall be removed by use of an auxiliary crane. Any alternate method of removing GP1 must first be approved by the Contracting Officer. The rings and collars installed on the gudgeon pin, as shown on reference drawing M-L2-21/17, shall be retained for use during the installation. After GP1 is removed, pin 21/17-20 shall be removed and anchor bar 21/17-7 with gudgeon link GL1 attached shall be rotated until clear of the gate. At this point pins 21/17-19 shall be removed with an auxiliary crane and anchor bars 21/17-7 with gudgeon link GL1 attached and anchor bar 21/17-8 shall be removed. Any alternate method of removing 21/17-19 must first be approved by the Contracting Officer. During the removal procedure, the existing gate anchor GA1 to remain must not be damaged in any manner including the application of heat. Anchor bar 21/17-7 and all of its components not reused shall be salvaged and provided to the Government for use as spare parts.

### 3.3.2.2 Anchor Bar Installation - Lock 2

The Contractor shall clean pins 21/17-19 and test fit into the newly installed gate anchorage. The test fit shall be witnessed by a representative of the Contracting Officer. Any necessary modification to the gate anchorage to achieve a satisfactory fit shall be approved by the Contracting Officer. The gudgeon link / anchor bar assembly shall be hoisted into position and pins 21/17-19 installed. The gudgeon link / anchor bar assembly shall be supported by blocking in the proper position. The blocking shall prevent damage to the newly installed gate anchorage. Once proper alignment has been achieved, the gudgeon pin shall be installed after first installing the rings and collars as shown on reference drawing M-L2-21/17. After the gudgeon pin is installed, keeper ring shall be installed. Once the gudgeon pin and keeper ring is installed the temporary supports can be removed. The Contractor shall adjust the miter gates in accordance with paragraph 3.4, ADJUSTMENT OF MITER GATES.

### 3.3.3 Lock 5

#### 3.3.3.1 Removal Procedure for Miter Gate Anchor Bars - Lock 5

The miter gate leafs shall be in the open position within the miter gate recess and existing walkway aprons S13 removed and stored for reinstallation. During the removal procedure, the anchor bars A15, shown on reference drawing M-L5-20/16-FS and 20/17-FS, shall be supported by blocking or other means to prevent damage to gate anchors GA1. Prior to removing the gudgeon pin GP1, the gate leaf shall be slightly raised, just to the point that load to the gudgeon pin is relieved. Once the load to the gudgeon pin is relieved, the miter gate shall be blocked and secured with guy lines or other approved means temporarily supporting the miter gate leaf. At this point gudgeon pin GP1 shall be removed by use of an auxiliary crane. Any alternate method of removing GP1 must first be approved by the Contracting Officer. The rings and collars installed on the gudgeon pin, as shown on reference drawing M-L5-21/10-FS, shall be retained for use during the installation. After GP1 is removed, anchor bar A15 shall be rotated until clear of the gate. At this point pins P1 shall be removed with an auxiliary crane and anchor bars A15 shall be removed. Any alternate method of removing P1 must first be approved by the Contracting Officer. During the removal procedure, the existing gate anchor GA1 to remain must not be damaged in any manner including the application of heat.



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### 3.3.3.2 Anchor Bar Installation - Lock 5

The Contractor shall clean all anchor bars bores, bushings and pins prior to re-assembly and test fit into the newly installed gate anchorage. The test fit shall be witnessed by a representative of the Contracting Officer.

Any necessary modification to the gate anchorage to achieve a satisfactory fit shall be approved by the Contracting Officer. The anchor bar assembly shall be hoisted into position and pins P1 installed. The anchor bar assembly shall be supported by blocking in the proper position. The blocking shall prevent damage to the newly installed gate anchorage. Once proper alignment has been achieved, the gudgeon pin shall be installed after first installing the rings and collars as shown on reference drawing M-L5-21/10-FS. After the gudgeon pin is installed, keeper ring shall be installed. Once the gudgeon pin and keeper ring is installed the temporary supports can be removed. The Contractor shall adjust the miter gates in accordance with paragraph 3.4, ADJUSTMENT OF MITER GATES.

### 3.4 ADJUSTMENT OF MITER GATES

#### 3.4.1 Lock 2

##### 3.4.1.1 Adjustment of Anchor Bars - Lock 2

Adjustment of the anchor bars shall consist of turning the sleeve nuts on the anchor bars so that the center of the gudgeon pin is directly over the center of the pintle and the difference in elevation between the quoin end and miter end is not greater than 1/2" in the miter position or the open position. The elevation differences and the centerlines of the pintle shall be established using survey equipment with the lock wall and monolith joints used for reference. Adjustment of the sleeve nut for anchor bar 21/17-8 is accomplished with the gate leaf approximately five feet from the open position. Adjustment of the sleeve nut for the new anchor bar is accomplished with the gate leaf in the mitered position.

##### 3.4.1.2 Installation of Bearing Casting Shims - Lock 2

Once the anchor bar adjustment has been approved by the Contracting Officer, it may be necessary to add or remove shims at bearing casting 21/17-15, 21/13-4 or 21/13-5. Additional shims required shall be made of variable thickness ASTM A36 steel plate. Shims at these locations shall be adjusted, added or removed so there is full and complete alignment and complete bearing. The alignment and bearing is between bearing castings 21/13-4 and 21/13-5 at the miter end and between bearing casting 21/17-15 and the bearing casting mounted to the concrete recess at the quoin end. See reference drawing M-L2-21/13 and M-L2-21/16 for details of the existing bearing castings and shims. Final adjustment of the miter gate bearing castings shall be subject to the approval of the Contracting Officer.

##### 3.4.1.3 Adjustment of Miter Seal - Lock 2

The miter seals should have full and complete contact for the entire length of the seals. If in the opinion of the Contracting Officer the miter seal requires adjustment, the Contractor shall accomplish the adjustment of underwater portions of the seal using a diver. The miter seal geometry is shown on Reference Drawing M-L2-21/14.

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### 3.4.2 Lock 5

#### 3.4.2.1 Adjustment of Anchor Bars - Lock 5

Adjustment of the anchor bars shall consist of turning the sleeve nuts on the anchor bars so that the center of the gudgeon pin is directly over the center of the pintle and the difference in elevation between the quoin end and miter end is not greater than 1/2" in the miter position or the open position. The elevation differences and the centerlines of the pintle shall be established using survey equipment with the lock wall and monolith joints used for reference. Adjustment of the sleeve nut for anchor bar A15 (interior) is accomplished with the gate leaf approximately five feet from the open position. Adjustment of the sleeve nut for the new anchor bar A15 (lockface) is accomplished with the gate leaf in the mitered position.

#### 3.4.2.2 Installation of Bearing Casting Shims - Lock 5

Once the anchor bar adjustment has been approved by the Contracting Officer, it may be necessary to add or remove shims at bearing casting C1, C2 or C3. Additional shims required shall be made of variable thickness ASTM A36 steel plate. Shims at these locations shall be adjusted, added or removed so there is full and complete alignment and complete bearing. The alignment and bearing is between bearing castings C2 and C3 at the miter end and between bearing casting C1 and the bearing casting mounted to the concrete recess at the quoin end. See reference drawing M-L5-21/9 and M-L5-21/8 for details of the existing bearing castings and shims. Final adjustment of the miter gate bearing castings shall be subject to the approval of the Contracting Officer.

#### 3.4.2.3 Adjustment of Miter Seal - Lock 5

The miter seals should have full and complete contact for the entire length of the seals. If in the opinion of the Contracting Officer the miter seal requires adjustment, the Contractor shall accomplish the adjustment of underwater portions of the seal using a diver. The miter seal geometry is shown on Reference Drawing M-L5-21/9.

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# Locks 2 & 5 Stoplog Slot Installation

## SECTION 03101

### FORMWORK FOR CONCRETE

#### PART 1 GENERAL

##### 1.1 SCOPE

The work covered by this section includes furnishing all labor, equipment, and materials and performing all operations necessary for forming the cast-in-place concrete, as indicated on the drawings and as specified herein.

##### 1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

###### ACI INTERNATIONAL (ACI)

ACI 347R (1994; R 1999) Guide to Formwork for Concrete

###### AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM C 1077 (1998) Laboratories Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Laboratory Evaluation

##### 1.3 DESIGN REQUIREMENTS

The design, engineering, and construction of the formwork shall be the responsibility of the Contractor. The formwork shall be designed for anticipated live and dead loads and shall comply with the tolerances specified in Section 03300 CAST-IN-PLACE STRUCTURAL CONCRETE, paragraph CONSTRUCTION TOLERANCES. However, for surfaces with an ACI Class A surface designation, the allowable deflection for facing material between studs, for studs between walers and walers between bracing shall be limited to 0.0025 times the span. The formwork shall be designed as a complete system with consideration given to the effects of cementitious materials and mixture additives such as fly ash, cement type, plasticizers, accelerators, retarders, air entrainment, and others. The adequacy of formwork design and construction shall be monitored prior to and during concrete placement as part of the Contractor's approved Quality Control Plan.

##### 1.4 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

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### SD-02 Shop Drawings

Shop Drawings; G, STR

Drawings and design computations for all formwork required shall be submitted at least 30 days either before fabrication on site or before delivery of prefabricated forms. The drawing and data submitted shall include the type, size, quantity, and strength of all materials of which the forms are made, the plan for jointing of facing panels, details affecting the appearance, and the assumed design values and loading conditions. Design computations and drawings shall be stamped by a registered professional engineer.

### SD-03 Product Data

Materials; G, STR

Manufacturer's literature shall be submitted for plywood, concrete form hard board, form accessories, strongback accessories, prefabricated forms, form coatings, and form-lining materials.

### SD-05 Design Data

Test Reports;

The Contractor shall submit field inspection reports for concrete forms and embedded items.

## 1.5 SHOP DRAWINGS

The shop drawings and data submitted shall include the type, size, quantity, and strength of all materials of which the forms are made, the plan for jointing of facing panels, details affecting the appearance, and the assumed design values and loading conditions.

## PART 2 PRODUCTS

### 2.1 MATERIALS

#### 2.1.1 Forms and Form Liners

Forms and form liners shall be fabricated with facing materials that will produce a finish meeting the specified irregularities in formed surface requirements as defined in ACI 347R. Forms and form liners shall be fabricated with facing materials as specified below.

##### 2.1.1.1 Class "B" Finish

This class of finish shall apply to the vertical faces of the stoplog slots. The form facing material shall be composed of tongue-and-groove or shiplap lumber, plywood conforming to DOC PS 1, Grade B-B concrete form, tempered concrete form hard board or steel. Steel lining on wood sheathing will not be permitted.

#### 2.1.2 Form Coating

Form coating shall be commercial formulation that will not bond with, stain, cause deterioration, or any other damage to concrete surfaces. The coating shall not impair subsequent treatment of concrete surfaces

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depending upon bond or adhesion nor impede the wetting of surfaces to be cured with water or curing compounds. If special form liners are to be used, the Contractor shall follow the recommendation of the form coating manufacturer.

### 2.2 ACCESSORIES

Ties and other similar form accessories to be partially or wholly embedded in the concrete shall be of a commercially manufactured type. After the ends or end fasteners have been removed, the embedded portion of metal ties shall terminate not less than 2 inches from any concrete surface either exposed to view or exposed to water. Removable tie rods shall not be allowed. Plastic snap ties may be used in locations where the surface will not be exposed to view. Form ties shall be constructed so that the ends or end fasteners can be removed without spalling the concrete.

## PART 3 EXECUTION

### 3.1 INSTALLATION

#### 3.1.1 Form Construction

Forms shall be constructed true to the structural design and required alignment. The form surface and joints shall be mortar tight and supported to achieve safe performance during construction, concrete placement, and form removal. The Contractor shall continuously monitor the alignment and stability of the forms during all phases to assure the finished product will meet the required surface classes specified in paragraph FORMS AND FORM LINERS and tolerances specified in paragraph DESIGN REQUIREMENTS. Failure of any supporting surface either due to surface texture, deflection or form collapse shall be the responsibility of the Contractor as will the replacement or correction of unsatisfactory surfaces. When forms for continuous surfaces are placed in successive units, care shall be taken to fit the forms over the completed surface to obtain accurate alignment of the surface and to prevent leakage of mortar. Forms shall not be re-used if there is any evidence of defects which would impair the quality of the resulting concrete surface. All surfaces of used forms shall be cleaned of mortar and any other foreign material before reuse.

#### 3.1.2 Chamfering

All exposed joints, edges and external corners shall be chamfered by molding placed in the forms unless the drawings specifically state that chamfering is to be omitted or as otherwise specified. Chamfered joints shall not be permitted where earth or rockfill is placed in contact with concrete surfaces. Chamfered joints shall be terminated twelve inches outside the limit of the earth or rockfill so that the end of the chamfers will be clearly visible.

#### 3.1.3 Coating

Forms for exposed or painted surfaces shall be coated with form oil or a form-release agent before the form or reinforcement is placed in final position. The coating shall be used as recommended in the manufacturer's instructions. Forms for unexposed surfaces may be wet with water in lieu of coating immediately before placing concrete, except that, in cold weather when freezing temperatures are anticipated, coating shall be mandatory. Surplus coating on form surfaces and coating on reinforcing steel and construction joints shall be removed before placing concrete.

### 3.2 FORM REMOVAL

Forms shall not be removed without approval. The minimal time required for concrete to reach a strength adequate for removal of formwork without risking the safety of workers or the quality of the concrete depends on a number of factors including, but not limited to, ambient temperature, concrete lift heights, type and amount of concrete admixture, and type and amount of cementitious material in the concrete. It is the responsibility of the Contractor to consider all applicable factors and leave the forms in place until it is safe to remove them. In any case forms shall not be removed unless the minimum compressive strength requirements below are met, except as otherwise directed or specifically authorized. When conditions are such as to justify the requirement, forms will be required to remain in place for a longer period. All removal shall be accomplished in a manner which will prevent damage to the concrete and ensure the complete safety of the structure. Where forms support more than one element, the forms shall not be removed until the form removal criteria are met by all supported elements. Form removal shall be scheduled so that all necessary repairs can be performed as specified in Section 03300: CAST-IN-PLACE STRUCTURAL CONCRETE, paragraph FORMED SURFACE REPAIRS. Evidence that concrete has gained sufficient strength to permit removal of forms shall be determined by tests on control cylinders. All control cylinders shall be stored in the structure or as near the structure as possible so they receive the same curing conditions and protection methods as given those portions of the structure they represent. Control cylinders shall be removed from the molds at an age of no more than 24 hours. All control cylinders shall be prepared and tested in accordance with ASTM C 31 and ASTM C 39 at the expense of the Contractor by an independent laboratory that complies with ASTM C 1077 and shall be tested within 4 hours after removal from the site.

#### 3.2.1 Formwork Not Supporting Weight of Concrete

Formwork for walls, columns, sides of beams, gravity structures, and other vertical type formwork not supporting the weight of concrete shall not be removed in less than 24 hours after concrete placement is completed.

#### 3.2.2 Formwork Supporting Weight of Concrete

Formwork supporting weight of concrete and shoring shall not be removed until structural members have acquired sufficient strength to safely support their own weight and any construction or other superimposed loads to which the supported concrete may be subjected. As a minimum, forms shall be left in place until control concrete test cylinders indicate evidence the concrete has attained at least 70 percent of the compressive strength required for the structure in accordance with the quality and location requirements of Section 03300: CAST-IN-PLACE STRUCTURAL CONCRETE, paragraphs CONCRETE STRENGTH and COMPRESSIVE STRENGTH SPECIMENS.

### 3.3 INSPECTION

The Contractor shall inspect forms and embedded items in sufficient time prior to each concrete placement in order to certify to the Contracting Officer that they are ready to receive concrete. The results of each inspection shall be reported in writing.

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# Locks 2 & 5 Stoplog Slot Installation

## SECTION 03151

### EXPANSION AND CONSTRUCTION JOINTS IN CONCRETE

#### PART 1 GENERAL

##### 1.1 SCOPE

The work covered by this section includes furnishing all labor, equipment, and materials and performing all operations necessary for forming expansion, contraction and construction joints in concrete, as indicated on the drawings and as specified herein.

##### 1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

#### AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM C 920	(1998) Elastomeric Joint Sealants
ASTM D 1752	(1984; R 1996el) Preformed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving and Structural Construction
ASTM D 2822	(1991; R 1997el) Asphalt Roof Cement

##### 1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

#### SD-01 Preconstruction Submittals

##### Bond Breaker Materials; G, COR

Prior to construction, the Contractor shall submit for approval all bond breaker materials to be used, including oil/grease, or other debonding agents. Submittal shall identify the location each material shall be used.

#### SD-04 Samples

##### Field Molded Sealants and Primer;

One gallon of field-molded sealant and one quart of primer (when primer is recommended by the sealant manufacturer) shall be

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provided for testing.

### SD-06 Test Reports

Premolded Expansion Joint Filler Strips; G, STR  
Field Molded Joint Sealants; G, STR

Certified manufacturer's test reports shall be provided for premolded expansion joint filler strips and field-molded joint sealants to verify compliance with applicable specification. Certification shall be current, within six months of contract award date.

### SD-08 Manufacturer's Instructions

Cold Weather Joint Sealing; G, MAT

If joint sealant is applied or cured when substrate and ambient temperatures are below 40 degrees F, the proposed methods of application and curing, in accordance with paragraph COLD WEATHER JOINT SEALING, shall be submitted. The submittal shall also include the manufacturer's instruction for installing sealants and premolded expansion joint filler strips.

## 1.4 JOINT SEALING REQUIREMENTS

Sealant applied to joints on the lock walls shall be completely cured before water immersion.

## PART 2 PRODUCTS

### 2.1 MATERIALS

#### 2.1.1 Premolded Expansion Joint Filler Strips

Premolded expansion joint filler strips shall conform to ASTM D 1752, Type I, sponge rubber.

#### 2.1.2 Joint Seals and Sealants

##### 2.1.2.1 Field Molded Sealants and Primer

Field molded sealants and primer shall conform to ASTM C 920, Type M, Grade NS, Class 25, use NT for vertical joints and Type M, Grade P, Class 25, use T for horizontal joints. Color of sealant shall be gray. All sealant used on vertical walls shall be suitable for immersion in water at pressures up to 15 pounds per square inch. Bond breaker material shall be polyethylene tape, coated paper, metal foil or similar type materials. The back-up material shall be compressible, non-shrink, non-reactive with sealant, and non-absorptive material type such as extruded butyl or polychloroprene foam rubber. Regardless whether bond breakers are shown on drawings, bond breakers shall be applied to the joint filler or backer material when recommended by the sealant manufacturer.

##### 2.1.3 Bituminous Cement Bond Breaker

Bituminous cement bond breaker shall conform to ASTM D 2822, Class I or II.

## 2.2 TESTS, INSPECTIONS, AND VERIFICATIONS

### 2.2.1 Materials Tests

#### 2.2.1.1 Field-Molded Sealants

Samples of sealant and primer, when use of primer is recommended by the manufacturer, as required in paragraph FIELD MOLDED SEALANTS AND PRIMER, shall be tested by and at the expense of the Government for compliance with paragraph FIELD MOLDED SEALANTS AND PRIMER. If the sample fails to meet specification requirements, new samples shall be provided and the cost of retesting will be deducted from payments due the Contractor.

## PART 3 EXECUTION

### 3.1 INSTALLATION

Joint locations and details, including materials and methods of installation of joint fillers, shall be as specified, as shown, and as directed. In no case shall any fixed metal be continuous through an expansion joint. Positioning of joint filler material on centerlines of monolith joints near vertical faces of walls is critical. Joint filler material shall not be installed until the concrete on one side of the monolith joint has hardened.

#### 3.1.1 Joints with Premolded Filler

Premolded filler strips shall have oiled wood strips secured to the top thereof and shall be accurately positioned and secured against displacement to clean, smooth concrete surfaces. The wood strips shall be slightly tapered, dressed and of the size required to install filler strips at the desired level below the finished concrete surface and to form the groove for the joint sealant or seals to the size shown. Material used to secure premolded fillers and wood strips to concrete shall not harm the concrete and shall be compatible with the joint sealant or seals. The wood strips shall not be removed until after the concrete curing period. The groove shall be thoroughly cleaned of all laitance, curing compound, foreign materials, protrusions of hardened concrete and any dust which shall be blown out of the groove with oil-free compressed air.

#### 3.1.2 Joints With Field-Molded Sealant

Immediately prior to installation of field molded sealants, the joint shall be cleaned of all debris and further cleaned using water, chemical solvents or other means as recommended by the sealant manufacturer. The joints shall be dry prior to filling with sealant. Bond breaker and back-up material shall be installed where required. If primer is recommended for use by the sealant manufacturer on the substrates to which sealant is to be applied, it shall be applied in the manner and at the rate recommended by the manufacturer. Sealant shall be applied after priming within the sealant manufacturer's recommended time limits. Joints shall be filled flush with joint sealant in accordance with the manufacturer's recommendations.

#### 3.1.3 Joints With Preformed Compression Seals

The joint seals shall be installed with equipment which shall be capable of installing joint seals to the prescribed depth without cutting, nicking, twisting, or otherwise distorting or damaging the seal and with no more

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than five percent stretching of the seal. The sides of the joint and, if necessary, the sides of the compression seal shall be covered with a coating of lubricant, and the seal shall be installed to the depth indicated with joint installation equipment. Butt joints shall be coated with liberal applications of lubricant.

### 3.1.4 Cold Weather Joint Sealing

Joints shall not be sealed when the sealant, air or substrate temperature is below 40 degrees F. If sealant is applied when ambient temperatures are below 40 degrees F, Contractor shall follow the methods previously submitted in accordance with paragraph SUBMITTALS. The sealant, adjacent substrate and adjacent air shall be maintained at a temperature and for a length of time to produce complete curing, in accordance with the manufacturer's recommendations.

### 3.1.5 Contraction Joints

Joints requiring a bond breaker shall be coated with bituminous cement. Waterstops shall be protected during application of bond breaking material to prevent them from being coated.

-- End of Section --

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## SECTION 03201

### STEEL BARS FOR CONCRETE REINFORCEMENT

#### PART 1 GENERAL

##### 1.1 SCOPE

The work covered by this section includes furnishing all labor, equipment, and materials and performing all operations necessary for fabrication and placement of reinforcing steel for cast-in-place concrete construction.

##### 1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

#### ACI INTERNATIONAL (ACI)

ACI 315 (1999) Details and Detailing of Concrete Reinforcement

ACI 318/318R (1999) Building Code Requirements for Structural Concrete and Commentary

#### AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM A 370 (1997a) Mechanical Testing of Steel Products

#### AMERICAN WELDING SOCIETY (AWS)

AWS D1.4 (1998) Structural Welding Code - Reinforcing Steel

##### 1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

#### SD-01 Preconstruction Submittals

Welding of Reinforcement Steel; G, STR

Schedules of welding procedures for reinforcement steel shall be submitted and approved prior to commencing fabrication.

#### SD-02 Shop Drawings

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### Fabrication and Placement; G, STR

The Contractor shall submit shop drawings which include: reinforcing steel placement, schedules, sizes, grades, and splicing, bending, and welding details. Drawings shall show support details including types, sizes and spacing. Complete shop drawings shall be submitted. The shop drawings shall contain a statement certifying that they are in compliance with the specifications and contract drawings. The shop drawing shall include details of the bending and placing schedule of the steel reinforcement, together with bar schedules indicating the number, size, dimensions, and total length of various bars required. Bar lists and bending diagrams shall be checked for accuracy and completeness before the bars are fabricated. Details of typical supports for reinforcing steel shall be approved prior to placing any concrete. Shop drawings shall show all concrete dimensions, location of all reinforcement, elevations, reinforcing steel clearances, and the location of all construction joints shown on the drawings or proposed by the Contractor. The drawings shall show support details including types, sizes and spacing. Spacing between vertical reinforcing steel shall be shown on the wall elevations. The minimum scale used in the shop drawings shall be 3/8-inch to the foot (1:30).

### SD-03 Product Data

#### Manufacturer's Literature; G, STR

Manufacturer's literature shall be submitted for the epoxy grout to be used for dowels and anchor bolts. The manufacturer shall certify the minimum ultimate pull-out strengths.

### SD-06 Test Reports

#### Material; G, STR

#### Tests, Inspections, and Verifications; G, STR

Certified tests reports of reinforcement steel showing that the steel complies with the applicable specifications shall be furnished for each steel shipment and identified with specific lots prior to placement. Three copies of the heat analyses shall be provided for each lot of steel furnished and the Contractor shall certify that the steel conforms to the heat analyses.

#### Materials Tests, Welding Procedures and Qualifications; Weld Examinations and Testing; G, STR

Certified test reports for material tests and analyses, examinations including visual examination and nondestructive testing of welds, welding procedures and welding operator qualifications shall be submitted in triplicate. Test reports for material tests and analyses shall be identified with specific lots and items prior to installation.

### SD-07 Certificates

#### Qualification of Welders and Welding Operators; G, STR

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Certifications for welders and welding operators shall be submitted prior to commencing fabrication.

### PART 2 PRODUCTS

#### 2.1 MATERIALS

Materials shall conform to the following requirements.

##### 2.1.1 Steel Bars

Steel bars shall comply with the requirements of ASTM A 615, Grade 60, of the sizes and lengths shown on the drawings. Welded steel bars shall comply with ASTM A706.

##### 2.1.1.1 Dowels

Dowels shall comply with the requirements of ASTM A 615, Grade 60, of the sizes and lengths shown on the drawings. Welded steel bars shall comply with ASTM A706.

##### 2.1.2 Accessories

##### 2.1.2.1 Bar Supports

Bar supports shall comply with the requirements of ACI 315. Supports for bars in concrete with formed surfaces exposed to view or to be painted shall be plastic-coated wire or stainless steel.

##### 2.1.2.2 Wire Ties

Wire ties shall be 16 gage or heavier black annealed wire. Ties for epoxy-coated bars shall be vinyl-coated or epoxy-coated.

##### 2.1.2.3 Epoxy Grout

Epoxy grout for dowels and anchor bolts to be embedded into the existing concrete and for patching of abandoned holes in existing concrete shall be a two-component, 100% solids, moisture-tolerant, high modulus, high strength, structural epoxy. When mixed, the epoxy shall give a smooth, non-abrasive, paste adhesive. Epoxy resins for use shall conform to ASTM C-881, Type IV, Grade 3, except the epoxy shall produce a minimum bond strength for harden concrete to steel of 2600 psi after a 14 day moist cure. The color of the epoxy shall be concrete gray. The epoxy grout shall be appropriate for the ambient concrete temperature at the time of installation.

#### 2.2 TESTS, INSPECTIONS, AND VERIFICATIONS

The Contractor shall have material tests required by applicable standards and specified performed by an approved laboratory and certified to demonstrate that the materials are in conformance with the specifications. Tests, inspections, and verifications shall be performed and certified at the Contractor's expense.

##### 2.2.1 Reinforcement Steel Tests

Mechanical testing of steel shall be in accordance with ASTM A 370 except as otherwise specified or required by the material specifications.



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Tension tests shall be performed on full cross-section specimens using a gage length that spans the extremities of specimens with welds or sleeves included. Chemical analyses of steel heats shall show the percentages of carbon, phosphorous, manganese, sulphur and silicon present in the steel.

### 2.2.2 Pull-Out Tests for Dowels

#### 2.2.2.1 Dowels for Cast-in-place Concrete

Five percent of each size of the dowels at each monolith used to anchor the cast-in-place concrete to the existing concrete shall be proof tested to 70 percent of specified minimum yield tensile strength of the dowel in accordance with ASTM E 488. If a dowel fails to achieve the proof load, two additional dowels installed during the same work shift as the failed dowel shall be tested. If one or both of the two additional dowels also fails to achieve the proof load, the Contractor shall develop and submit for approval a plan of corrective action to be taken for the dowels installed during that work shift. If both of the additional dowels pass the proof load test, the Contractor may replace the failed dowel without a corrective action plan. Replacing dowels and additional testing of dowels shall be performed at the Contractor's expense. The replacement dowels shall be installed as close to the failed dowel as possible.

## PART 3 EXECUTION

### 3.1 FABRICATION AND PLACEMENT

Reinforcement steel and accessories shall be fabricated and placed as specified and shown on approved shop drawings. Fabrication and placement details of steel and accessories not specified or shown shall be in accordance with ACI 315 and ACI 318/318R or as directed. Steel shall be fabricated to shapes and dimensions shown, placed where indicated within specified tolerances and adequately supported during concrete placement. At the time of concrete placement all steel shall be free from loose, flaky rust, scale (except tight mill scale), mud, oil, grease or any other coating that might reduce the bond with the concrete.

#### 3.1.1 Hooks and Bends

Steel bars shall be mill or field-bent. All steel shall be bent cold unless authorized. No steel bars shall be bent after being partially embedded in concrete unless indicated or authorized.

#### 3.1.2 Welding

Welding of steel bars will be permitted only where indicated or authorized. Field welding of steel reinforcing bars is prohibited except as indicated on the drawings. Welding shall be performed in accordance with AWS D1.4 except where otherwise specified or indicated.

#### 3.1.3 Placing Tolerances

##### 3.1.3.1 Spacing

The spacing between adjacent bars and the distance between layers of bars may not vary from the indicated position by more than one bar diameter nor more than 1 inch.

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### 3.1.3.2 Concrete Cover

The minimum concrete cover of main reinforcement steel bars shall be as shown on the drawings. The allowable variation for minimum cover shall be as follows:

MINIMUM COVER	VARIATION
6 inch	plus 1/2 inch
4 inch	plus 3/8 inch
3 inch	plus 3/8 inch
2 inch	plus 1/4 inch
1-1/2 inch	plus 1/4 inch
1 inch	plus 1/8 inch
3/4 inch	plus 1/8 inch

### 3.1.4 Splicing

Splices of reinforcement shall conform to ACI 318/318R and shall be made only as required or indicated. Bars may be spliced at alternate or additional locations at no additional cost to the Government subject to approval by the Contracting Officer.

#### 3.1.4.1 Lap Splices

Lap splices shall be used only for bars smaller than size 14. Lapped bars may be placed in contact and securely tied or spaced transversely apart to permit the embedment of the entire surface of each bar in concrete. Lapped bars shall not be spaced farther apart than 1/5 the required length of lap or 6 inches.

#### 3.1.4.2 Mechanical Splices

Mechanical butt splices shall be made in accordance with the recommendations of the manufacturer of the mechanical splicing device. Butt splices shall develop 125 percent of the specified minimum yield tensile strength of the spliced bars or of the smaller bar in transition splices. Adequate jigs and clamps or other devices shall be provided to support, align, and hold the longitudinal centerline of the bars to be butt spliced in a straight line.

### 3.1.5 Embedment in Existing Concrete

The embedment of dowels and anchor bolts shall be as shown on the drawings. The embedment shown is based on the epoxy grout bond strength specified in paragraph EPOXY GROUT of this specification section. The dowels and anchor bolts shall be embedded into sound concrete.

### 3.1.6 Dowel and Grouted Anchor Bolt Installation

Drilling and bonding dowels and anchor bolts with epoxy grout shall conform to the details shown on the drawings and the requirements of these specifications. Holes for dowels and anchor bolts shall be drilled by methods that will not shatter or damage the concrete adjacent to the holes.

The drilled holes shall be clean and dry at the time of placing the epoxy grout material and dowels or anchor bolts. Unless otherwise shown or specified, the installation procedure recommended by the manufacturer shall be followed. The size of the drilled holes shall be as recommended by the epoxy grout manufacturer. After bonding, dowels and anchor bolts shall be

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supported as necessary to prevent movement during curing and shall remain undisturbed until the epoxy has cured a minimum time as specified by the manufacturer. Dowels shall be placed within plus or minus 1" horizontally and vertically of the location shown on the drawings.

### 3.1.7 Dowel Length

Embedment depth into existing concrete is dependent on method of demolition used; see General Notes on drawing M-L2-20/051 for Lock 2 and drawing M-L5-20/051 for Lock 5. Overall dowel length shall be adjusted as required to account for required embedment depth.

### 3.1.8 Anchor Rod Length

Overall length of anchor rods is dependent on location of demolished surface of concrete, which will not be known until demolition is complete. Length of anchor rods shall be adjusted as required to maintain the required embedment into existing concrete and the required position of the free end of the anchor bolt.

-- End of Section --

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## SECTION 03300

### CAST-IN-PLACE STRUCTURAL CONCRETE

#### PART 1 GENERAL

##### 1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

#### ACI INTERNATIONAL (ACI)

- |           |   |
|-----------|---|
| ACI 211.1 | (1991) Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete |
| ACI 306R  | (1988) Cold Weather Concreting  |

#### AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO)

- |              |   |
|--------------|---|
| AASHTO M 182 | (1991; R 1996) Burlap Cloth Made From Jute or Kenaf |
|--------------|---|

#### AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

- |            |  |
|------------|--|
| ASTM C 31  | (1998) Making and Curing Concrete Test Specimens in the Field          |
| ASTM C 33  | (1999) Concrete Aggregates   |
| ASTM C 39  | (1996) Compressive Strength of Cylindrical Concrete Specimens          |
| ASTM C 42  | (1999) Obtaining and Testing Drilled Cores and Sawed Beams of Concrete |
| ASTM C 94  | (2000) Ready-Mixed Concrete  |
| ASTM C 136 | (2001) Sieve Analysis of Fine and Coarse Aggregates                    |
| ASTM C 150 | (1999a) Portland Cement  |
| ASTM C 171 | (1997a) Sheet Materials for Curing Concrete                            |
| ASTM C 172 | (1999) Sampling Freshly Mixed Concrete                                 |
| ASTM C 231 | (1997) Air Content of Freshly Mixed                                    |

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### Concrete by the Pressure Method

ASTM C 260	(2000) Air-Entraining Admixtures for Concrete
ASTM C 309	(1998a) Liquid Membrane-Forming Compounds for Curing Concrete
ASTM C 494	(1999) Chemical Admixtures for Concrete
ASTM C 566	(1997) Total Evaporable Moisture Content of Aggregate by Drying
ASTM C 597	(1983; R 1997) Pulse Velocity Through Concrete
ASTM C 618	(2000) Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Concrete
ASTM C 803/C 803M	(1997) Penetration Resistance of Hardened Concrete
ASTM C 881	(1999) Epoxy-Resin-Base Bonding Systems for Concrete
ASTM C 989	(1999) Ground Granulated Blast-Furnace Slag for Use in Concrete and Mortars
ASTM C 1064	(1999) Temperature of Freshly Mixed Portland Cement Concrete
ASTM C 1077	(1998) Laboratories Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Laboratory Evaluation
ASTM C 1107	(1999) Packaged Dry, Hydraulic-Cement Grout (Nonshrink)

### CORPS OF ENGINEERS (COE)

COE CRD-C 104	(1980) Method of Calculation of the Fineness Modulus of Aggregate
COE CRD-C 400	(1963) Requirements for Water for Use in Mixing or Curing Concrete
COE CRD-C 540	(1971; R 1981) Standard Specification for Nonbituminous Inserts for Contraction Joints in Portland Cement Concrete Airfield Pavements, Sawable Type
COE CRD-C 572	(1974) Corps of Engineers Specifications for Polyvinylchloride Waterstop

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### NATIONAL READY-MIXED CONCRETE ASSOCIATION (NRMCA)

NRMCA TMMB 100	(1994) Truck Mixer Agitator and Front Discharge Concrete Carrier Standards
NRMCA QC 3	(1984) Quality Control Manual: Section 3, Plant Certifications Checklist: Certification of Ready Mixed Concrete Production Facilities

### 1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

#### SD-01 Preconstruction Submittals

##### Concrete Operation Plan; G,MAT

The plan shall demonstrate a thorough understanding of all involved technical and logistical conditions necessary for the production of concrete that meets all requirements of these specifications. The plan shall provide as a minimum the following:

- a. Sources of cement, pozzolan, aggregates, admixtures, and curing compound.
- b. Location of aggregate stockpiles, batching plant, and mixing plant.
- c. Method and route for conveying batched concrete under all expected weather conditions. Time allowed to maintain flow properties of SCC.
- d. Method of conveying concrete within the project.
- e. Sources of electrical power and water.
- f. Provisions for replacement of required equipment in the event of breakdown.
- g. Methods for preventing aggregate stockpiles from freezing, moisture variation, or contamination.
- h. Methods of placing and curing. Include manufacturer's literature.
- i. Contractor quality control.
- j. Provisions for maintaining a working access or platform for lock personnel engaged in lock operations during placement and curing of concrete repairs.

##### Cold Weather Plan; G,MAT

If concrete is to be placed under cold weather conditions, the procedures, materials, methods, and protection proposed to accomplish it shall be submitted for review.

#### SD-02 Shop Drawings



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### Shop Drawings; G,STR

Shop drawings shall be submitted on a continuing basis during the life of the contract. The drawings shall be shown at not less than 1/4 inch equals 1 foot scale. The drawings shall show accurate concrete outlines and all types of joints. A numbering system shall be established to facilitate ready identification of each lift. The drawing shall cover in detail the design, construction, adjustment, and maintenance of the formwork and shall indicate all major design values of form materials to be used and the loading conditions on the form, including rate of concrete placement. Approval will not relieve the Contractor of responsibility of accuracy of the drawings or for the inclusion of all embedded items or other requirements specified herein.

### SD-03 Product Data

#### Concrete Mixture Design; G,MAT

A mix design shall be submitted for each concrete mix to be used on the project. Each mix design shall list the proportions by weight of cement, weight or volume of water, weights of aggregates in a saturated surface-dry condition, and type, quantity, and name of admixtures per cubic yard of concrete. All materials included in the mixture shall be of the same type and from the same source as will be used on the project. Each mix shall be accompanied by evidence that demonstrates the mix will produce concrete having the characteristics and quality as specified:

Mix Design Study. Submit a mix design study complying with ACI 211.1 conducted in the past 12 months. The mix design shall be completed by a testing laboratory complying with ASTM C 1077. For SCC (Self-Consolidating Concrete) submit evidence of the design mix for this project. The evidence shall include test data from the Slump Flow Test and the Visual Stability Index (VSI) per attachment No.1 at the end of this section. A registered professional engineer knowledgeable and familiar with self-consolidating concrete mixes shall conduct these tests, or have them done under his immediate supervision.

Project data or mix design studies shall be obtained for the exact mix as submitted. Minor mix alterations or substitutions may be accepted if approved by the Contracting Officer. Any alternations or substitutions shall be clearly identified, and shall be accompanied by recommendations from the admixture supplier or a registered professional engineer indicating the expected effects on the concrete.

### SD-07 Certificates

#### Manufacturer's Certificates;

The following materials shall be certified for compliance with all specification requirements:

- a. Cement and pozzolan
- b. Impervious sheet curing materials
- c. Admixtures
- d. Curing compound

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- e. Epoxy Resin and Latex Bonding Compound shall be certified for compliance with all specification requirements.
- f. Descriptive literature of the Nonshrink Grout proposed for use shall be furnished together with a certificate from the manufacturer stating that it is suitable for the application or exposure for which it is being considered.

### Qualifications;

Written documentation for Contractor Quality Control personnel.

### Batch Tickets

Batch tickets shall be collected and furnished to the Contracting Officer for each load of ready-mixed concrete. The batch tickets do not need to be transmitted through the submittal process.

## 1.3 QUALIFICATIONS

Contractor Quality Control personnel assigned to concrete construction shall be American Concrete Institute (ACI) Certified Workmen in grade I or higher or shall have written evidence of having completed similar qualification programs.

## 1.4 CONSTRUCTION TOLERANCES

### 1.4.1 General

The definitions of the terms used in the following tables shall be as defined in ACI 117/117R. Level and grade tolerance measurements of slabs shall be made as soon as possible after finishing. When forms or shoring are used, the measurements shall be made prior to removal. Tolerances are not cumulative. The most restrictive tolerance controls. Tolerances shall not extend the structure beyond legal boundaries. Except as specified otherwise, plus tolerance increases the amount or dimension to which it applies, or raises a level alignment, and minus tolerance decreases the amount or dimension to which it applies, or lowers a level alignment. A tolerance without sign means plus or minus. Where only one sign tolerance is specified, there is no limit in the other direction.

### TOLERANCE FOR FINISHED FORMED CONCRETE SURFACES

#### (1) Vertical alignment

Formed surfaces slope with respect to the specified plane. Vertical alignment of outside corner of exposed corner columns and control joint grooves in concrete exposed to view.

----- 1/4 inch in 10 feet.

All other conditions ----- 3/8 inch in 10 feet.

#### (2) Abrupt Variation

The offset between concrete surfaces for the following classes of surface:

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Class B ----- 1/4 inch.

### (3) Gradual Variation

Surface finish tolerances as measured by placing a freestanding (unleveled), 5-ft straightedge for plane surface or curved template for curved surface anywhere on the surface and allowing it to rest upon two high spots within 72 hr after concrete placement. The gap at any point between the straightedge or template and the surface shall not exceed:

Class B ----- 1/4 inch.

### 1.4.2 Appearance

Finished surfaces shall be protected from stains or abrasions. Permanently exposed surfaces shall be cleaned, if stained or otherwise discolored, by an approved method that does not harm the concrete. Abrupt variations in color, shade, or tint will not be permitted on these surfaces.

## 1.5 GOVERNMENT QUALITY ASSURANCE INSPECTION AND TESTING

The Contracting Officer may appoint a Government representative or an independent testing laboratory to inspect construction and monitor operations of the Contractor's CQC staff as considered appropriate for quality assurance. The Contractor shall provide facilities and labor as may be necessary for procurement of representative test samples. Government inspection or testing will not relieve the Contractor of any of its CQC responsibilities. Failure to detect defective work or material will not prevent rejection later when a defect is discovered nor will it obligate the Government for final acceptance.

## PART 2 PRODUCTS

### 2.1 GENERAL CONCRETE REQUIREMENTS

The concrete shall be a Self-consolidating concrete (SCC), that is able to flow under its own weight and completely fill the form work, even in the presence of dense reinforcement without the need of any vibration while maintaining homogeneity. The concrete shall be composed of a cementitious material, water, fine and coarse aggregates, and admixtures. The admixtures shall include super plasticizers, which are an essential component of SCC to provide the necessary work ability; viscosity modifying agents (VMA) for stability, and air entraining admixtures (AEA) to improve the freeze-thaw resistance. The design compressive strength as determined by ASTM C-39 shall not be less than 3,000 pounds per square inch in 7 days. Water-cement ratio shall not exceed 0.40. The maximum water-cement ratio will be determined by the weight equivalency method as described in ACI 211.1 (cement plus pozzolan, silica fume, and ground granulated blast furnace slag). This W/C ratio may cause higher strengths than required. The cementitious material content shall be a minimum 500 and a maximum 620 pounds per cubic yard. Materials shall meet the requirements of the respective publications and other data specified below.

#### 2.1.1 Strength Requirements

The strength of the concrete will be considered satisfactory so long as the average of all sets of three consecutive test results equals or exceeds the specified compressive strength  $f'_c$  and no individual test result falls

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below the specified strength  $f'_c$  by more than 500 psi. A "test" is defined as the average of two companion cylinders, or if only one cylinder is tested, the results of the single cylinder test. Design compressive strength ( $f'_c$ ) shall be evaluated for acceptance at 7 days. Additional analysis or testing, including nondestructive testing, and /or taking cores may be required at the Contractor's expense when the strength of the concrete in the structure is considered potentially deficient.

a. Investigation of Low-Strength Test Results. When any strength test of standard cured test cylinders falls below the specified strength requirement by more than 500 psi or if tests of field cured cylinders indicate deficiencies in protection and curing, steps shall be taken to assure that the load carrying capacity of the structure is not jeopardized.

Nondestructive testing in accordance with ASTM C 597 and ASTM C 803/C 803M may be permitted by the Contracting Officer to estimate the relative strengths at various locations in the structure as an aid in evaluating concrete strength in place or for selecting areas to be cored. Such tests shall not be used as a basis for acceptance or rejection.

b. Testing of Cores. When the strength of concrete in place is considered potentially deficient, cores shall be obtained and tested in accordance with ASTM C 42. At least three representative cores shall be taken from each member or area of concrete in place that is considered potentially deficient. The location of cores will be determined by the Contracting Officer to least impair the performance of the structure. Concrete in the area represented by the core testing will be considered adequate if the average strength of the cores is equal to at least 85 percent of the specified strength requirement and if no single core is less than 75 percent of the specified strength requirement.

### 2.1.2 Slump Flow

For SCC (self-consolidating concrete) the slump flow of concrete is identified as the flow of concrete as measured by the Slump Flow Test. The slump flow should be between 26 and 30 inches, with a visual rating of static stability equal to zero or one as determined by the Visual Stability Index (VSI) test.

### 2.1.3 Admixtures

Admixtures to be used on the project shall be included in the mix design submittals. Accelerating admixtures shall be used only when approved in writing.

#### 2.1.3.1 Air Entrainment

All concrete shall be air entrained to contain between 4 and 7 percent total air, except that when the nominal maximum size coarse aggregate is 3/4 inch, it shall be between 4-1/2 and 7-1/2 percent.

#### 2.1.4 Size of Coarse Aggregate

Nominal maximum size coarse aggregate shall be 1-1/2 inches, except 3/4 inch nominal maximum size coarse aggregate shall be used when any of the following conditions exist: the narrowest dimension between sides of forms is less than 7-1/2 inches, the depth of the slab is less than 4-1/2 inches, or the minimum cover or clear spacing between reinforcing is less than 2 inches.

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### 2.2 CEMENTITIOUS MATERIALS

Cementitious materials shall be portland cement, or portland cement in combination with pozzolan or ground granulated blast furnace slag. Optional pozzolan replacement of cement shall be limited to 20 percent of the total cementitious material of a mix by weight. Cementitious materials shall conform to appropriate specifications listed below. Use of cementitious materials in concrete which will have surfaces exposed in the completed structure shall be restricted so there is no change in color, source, or type of cementitious material.

#### 2.2.1 Portland Cement

ASTM C 150, Type I with a maximum 15 percent amount of tricalcium aluminate, or Type II.

#### 2.2.2 Pozzolan (Fly Ash)

ASTM C 618, Class C or F with the optional requirements for multiple factor, drying shrinkage, and uniformity from Table 2A of ASTM C 618. Requirement for maximum alkalies from Table 1A of ASTM C 618 shall apply.

#### 2.2.3 Ground Granulated Blast-Furnace (GGBF) Slag

ASTM C 989, Grade 120.

### 2.3 AGGREGATES

#### 2.3.1 Composition

Fine aggregate shall consist of natural sand, manufactured sand, or a combination of natural and manufactured sands. Coarse aggregate shall consist of gravel, crushed gravel, crushed stone, or a combination thereof.

#### 2.3.2 Quality

The aggregate particles shall be clean, hard, unweathered, and uncoated. The shape of the particles shall be generally cubical or spherical. Where required, fines shall be removed from the aggregates by adequate washing. The aggregates as delivered to the mixer shall meet the quality requirements of ASTM C 33, table 3 for the appropriate type or location of concrete construction for use in a severe climate.

### 2.4 CHEMICAL ADMIXTURES

Chemical admixtures, when required or permitted, shall conform to the appropriate specification listed.

- a. Air-Entraining Admixture. ASTM C 260 and shall consistently entrain the air content in the specified ranges under field conditions.
- b. Accelerating Admixture. ASTM C 494, Type C or E, except that calcium chloride or admixtures containing calcium chloride shall not be used.
- c. Water-Reducing or Retarding Admixture. ASTM C 494, Type A, B, or D.
- d. High-Range Water Reducer. ASTM C 494, Type F or G.

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e. Viscosity-Modifying Admixture. The Viscosity-modifying admixture shall be a commercial formulation specially developed for producing concrete with enhanced viscosity controlling properties that when used with a high-range water reducing admixture will produce a self-compacting concrete.

### 2.5 CURING MATERIALS

#### 2.5.1 Impervious-Sheet

Impervious-sheet materials shall conform to ASTM C 171, type optional, except that polyethylene sheet shall be white opaque.

#### 2.5.2 Membrane-Forming Compound

Membrane-Forming curing compound shall conform to ASTM C 309, Type 1-D or 2. Non pigmented compound shall contain a fugitive dye, and shall have the reflective requirements in ASTM C 309 waived.

#### 2.5.3 Burlap and Cotton Mat

Burlap and cotton mat used for curing shall conform to AASHTO M 182.

### 2.6 WATER

Water for mixing and curing shall be fresh, clean, potable, and free of injurious amounts of oil, acid, salt, or alkali, except that non-potable water may be used if it meets the requirements of COE CRD-C 400. Water for curing shall not contain any substance that stains the concrete. River water shall not be used.

### 2.7 NONSHRINK GROUT

Nonshrink grout shall conform to ASTM C 1107, Grade C, except it shall have a minimum compressive strength of 6000 psi in 28 days and shall be a commercial formulation suitable for the application proposed .

### 2.8 EPOXY RESIN

Epoxy resins for use in repairs shall conform to ASTM C 881, Type IV, Grade 3, Class as appropriate for use based on surface temperature of hardened concrete.

### 2.9 JOINT MATERIALS

#### 2.9.1 Contraction Joints in Slabs

Sawable type contraction joint inserts shall conform to COE CRD-C 540. Nonsawable joint inserts shall have sufficient stiffness to permit placement in plastic concrete without undue deviation from a straight line and shall conform to the physical requirements of COE CRD-C 540. Plastic inserts shall be polyvinyl chloride conforming to the materials requirements of COE CRD-C 572.

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### PART 3 EXECUTION

#### 3.1 PREPARATION FOR PLACING

Surfaces to receive concrete shall be clean, damp and free from frost, ice, mud, loose particles, foreign matter, and water. Forms shall be in place, cleaned, coated, and adequately supported. Reinforcing steel shall be in place, cleaned, tied, and adequately supported. Transporting and conveying equipment shall be in-place, ready for use, clean, and free of hardened concrete and foreign material. Equipment for consolidating concrete shall be at the placing site and in proper working order. Equipment and material for curing and for protecting concrete from weather or mechanical damage shall be at the placing site, in proper working condition and in sufficient amount for the entire placement.

##### 3.1.1 Embedded Items

Before placement of concrete, care shall be taken to determine that all embedded items are firmly and securely fastened in place as indicated on the drawings, or required. Conduit and other embedded items shall be clean and free of oil and other foreign matter such as loose coatings or rust, paint, and scale. The embedding of wood in concrete will be permitted only when specifically authorized or directed. Voids in sleeves, inserts, and anchor slots shall be filled temporarily with readily removable materials to prevent the entry of concrete into voids.

#### 3.2 CONCRETE PRODUCTION

Concrete shall be furnished from a ready-mixed concrete plant, . Ready-mixed concrete shall be batched, mixed, and transported in accordance with ASTM C 94. Truck mixers, agitators, and nonagitating transporting units shall comply with NRMCA TMMB 100. Ready-mix plant equipment and facilities shall be certified in accordance with NRMCA QC 3. Aluminum pipes, chutes, troughs, spouts, or tremies shall not be used for pumping, conveying, or placing concrete.

##### 3.2.1 Concrete Mixers

The mixers shall not be charged in excess of the capacity recommended by the manufacturer. Truck mixers, the mixing of concrete therein, and concrete uniformity shall conform to the requirements of ASTM C 94. Each truck shall be equipped with two counters from which it is possible to determine the number of revolutions at mixing speed and the number of revolutions at agitating speed.

#### 3.3 TRANSPORTING CONCRETE TO PROJECT SITE

Concrete shall be transported to the placing site in truck mixers conforming to NRMCA TMMB 100.

#### 3.4 CONVEYING CONCRETE ON SITE

Concrete shall be conveyed from mixer to forms by methods that will prevent segregation or loss of ingredients. Any concrete transferred from one conveying device to another shall be passed through a hopper, which is conical in shape, and shall not be dropped vertically more than 5 feet, except where suitable equipment is provided to prevent segregation and where specifically authorized. Trucks shall be equipped with radios or

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phones to permit communication between the mixing plant and the concrete placement site.

### 3.4.1 Concrete Pumps

The pipeline shall be rigid steel pipe or heavy-duty flexible hose. The inside diameter of the pipe shall be at least three times the nominal maximum size coarse aggregate in the concrete mixture to be pumped, but not less than 5 inches. The maximum size coarse aggregate will not be reduced to accommodate the pumps. The distance to be pumped shall not exceed limits recommended by the pump manufacturer. The concrete shall be supplied to the concrete pump continuously. When pumping is completed, concrete remaining in the pipeline shall be ejected without contamination of concrete in place. After each operation, equipment shall be thoroughly cleaned, and flushing water shall be wasted outside of the forms and in compliance with the approved environment protection plan.

### 3.4.2 Buckets

The interior hopper slope shall be not less than 58 degrees from the horizontal, the minimum dimension of the clear gate opening shall be at least five times the nominal maximum size aggregate, and the area of the gate opening shall not be less than 2 square feet. The maximum dimension of the gate opening shall not be greater than twice the minimum dimension. The bucket gates shall be essentially grout tight when closed and may be manually, pneumatically, or hydraulically operated except that buckets larger than 2 cubic yards shall not be manually operated. The design of the bucket shall provide means for positive regulation of the amount and rate of deposit of concrete in each dumping position.

### 3.4.3 Chutes

When concrete can be placed directly from a truck mixer, agitator, or nonagitating equipment, the chutes attached to this equipment by the manufacturer may be used. A discharge deflector shall be used when required by the Contracting Officer. Separate chutes and other similar equipment will not be permitted for conveying concrete.

## 3.5 PLACING CONCRETE

Mixed concrete shall be discharged within 1-1/2 hours or before the mixer drum has revolved 300 revolutions, whichever comes first after the introduction of the mixing water to the cement and aggregates. When the length of haul makes it impossible to deliver truck-mixed concrete within this time limit, batching of cement and a portion of the mixing water shall be delayed until the truck mixer is at or near the construction site. Concrete shall be placed within 15 minutes after it has been discharged from the transporting unit. Sufficient placing capacity shall be provided so that concrete can be kept free of cold joints.

### 3.5.1 Depositing Concrete

Concrete shall be deposited as close as possible to its final position in the forms, horizontal flow not to exceed 15 feet and there shall be no vertical drop greater than 5 feet except where suitable equipment is provided to prevent segregation and where specifically authorized. Concrete shall be deposited continuously so that fresh concrete is deposited on in-place concrete that is still plastic.



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### 3.5.2 Consolidation

Self-Consolidating Concrete does not require vibration. If the slump flow test indicates concrete with a slump flow less than desired, the Contracting Officer may require vibration to consolidate the concrete. This should be done in accordance with ACI 309R.

### 3.5.3 Cold Weather Requirements

Concrete shall not be placed without a procedure approved in accordance with paragraph: SUBMITTALS when the concrete is likely to be subjected to freezing temperatures before the expiration of the curing period. Heating of the mixing water or aggregates will be required to regulate the concrete-placing temperatures. The placing temperature of the concrete shall be as recommended in ACI 306R, Table 3.1, with the temperature of the concrete measured in accordance with ASTM C 1064. Air and form temperature in contact with concrete shall be above 50 degrees F prior to placing concrete and maintained for the first 7 days, and at a temperature above 32 degrees F for the remainder of the specified curing period. Thermometers shall be installed at such locations as may be directed. Suitable thermometers shall be furnished by the Contractor and installed adjacent to the concrete surface and 2 inches inside the surface of the concrete. During the period of protection removal, heat shall be shut down and insulation or tents shall be removed in a systematic schedule such that the temperature differential between the air and concrete surface does not exceed 25 degrees F. Exhaust fumes from combustion heating units shall be vented to the outside of the enclosure, and heaters and ducts shall be placed and directed so as not to cause areas of overheating and drying of concrete surfaces or to create fire hazards. Materials entering the mixer shall be free from ice, snow, or frozen lumps.

## 3.6 JOINTS

All joints not shown on the drawings are subject to approval by the Contracting Officer. Joints shall be perpendicular to the main reinforcement.

### 3.6.1 Construction Joints

Concrete shall be placed continuously so that structural members are monolithic in construction. Construction joints shall be located and constructed as indicated or approved. Where concrete work is interrupted by weather, end of work shift or other similar type of delay, location and type of construction joint shall be subject to approval of the Contracting Officer. Fresh concrete shall not be placed against adjacent hardened concrete until it is at least 24 hours old. Construction joint treatment shall conform to the following requirements.

#### 3.6.1.1 Preparation for construction joints

Concrete surfaces, including existing concrete surfaces after demolition, to which additional concrete is to be bonded, shall be prepared for receiving the next lift or adjacent concrete by cleaning with either air-water cutting, sandblasting, high pressure water jet, or other approved method. Air-water cutting will not be permitted on formed surfaces or surfaces congested with reinforcing steel. Regardless of the method used, the resulting surfaces shall be free from all laitance and inferior concrete so that clean, well-bonded coarse aggregate is exposed uniformly throughout the lift surface. The surface of the concrete shall have a

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minimum of a 0.25-inch amplitude. Mechanical impact means of achieving the 0.25-inch amplitude within two feet of the top elevation of the filling and emptying culvert and below shall not be permitted. Concrete surface preparation, which will not compromise the integrity of the section of the culvert wall shown as remaining, shall be used. The edges of the coarse aggregate shall not be undercut. The surface shall be washed clean again as the last operation prior to placing the next lift. There shall be no standing water on the surface upon which concrete is placed.

a. Air-Water Cutting - Air-water cutting of a construction joint shall be performed at the proper time and only on horizontal construction joints. The air pressure used in the jet shall be 90 to 110 psi, and the water pressure shall be just sufficient to bring the water into effective influence of the air pressure. When approved by the Contracting Officer, a retarder complying with the requirements of COE CRD-C 94 may be applied to the surface of the lift to prolong the period of time during which air-water cutting is effective. Prior to receiving approval, the Contractor shall furnish samples of the material to be used and shall demonstrate the method to be used in applications. After cutting, the surface shall be washed and rinsed as long as there is any trace of cloudiness of the wash water. Where necessary to remove accumulated laitance, coatings, stains, debris, and other foreign material, high-pressure water jet or sandblasting will be required as the last operation before placing the next lift.

b. High-Pressure Water Jet - A stream of water under a pressure of not less than 3,000 psi may be used for cleaning. Its use shall be delayed until the concrete is sufficiently hard so that only the surface skin or mortar is removed and there is no undercutting of coarse aggregate particles. If the water jet is incapable of a satisfactory cleaning, the surface shall be cleaned by sandblasting.

c. Wet Sandblasting - This method may be used when the concrete has reached sufficient strength to prevent undercutting of the coarse aggregate particles. The surface of the concrete shall then be washed thoroughly to remove all loose materials.

### 3.6.2 Preparation for Surface Repairs

Preparation for surface repairs shall follow the requirements for preparation for construction joints, with the following additional criteria: The surface preparation shall include air-water cutting, sandblasting, high-pressure water jet, or other approved method. The surface shall be cleaned as the last operation prior to placing concrete or obstructing the area with reinforcement. The surface shall be watered for 12 hours prior to placing concrete. Horizontal surfaces shall be air blasted to remove puddled water.

### 3.6.3 Waste Disposal

The method used in disposing of wastewater employed in cutting, washing, and rinsing of concrete surfaces shall be such that the wastewater does not stain, discolor, or affect exposed surfaces of the structures, or damage the environment of the project area. The method of disposal shall be subject to approval.

## 3.7 FINISHING FORMED SURFACES

Beginning no more than 24 hours after form removal, all fins and loose

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materials shall be removed. All voids and honeycombs exceeding 1/2 inch in diameter and all tie rod holes shall be reamed or chipped and filled with dry pack mortar. Voids and honeycomb shall be dampened, brush-coated with a neat cement grout or with an approved bonding agent, and filled with mortar. The cement used in mortar for all surfaces permanently exposed to view shall be a blend of portland cement and white cement, so that the final color when cured shall be the same as adjacent concrete. The mortar shall consist of one part cement to two and one-half parts fine aggregate. The quantity of mixing water shall be the minimum necessary to obtain a uniform mixture and to permit placing. Mortar shall be thoroughly compacted in place and struck off to adjacent concrete. Temperature of the concrete, ambient air, replacement concrete, or mortar during remedial work, including curing, shall be above 50 F. The patched areas shall be cured for seven days. Defective areas larger than 36 square inches in any surface shall be replaced or corrected as directed by the Contracting Officer.

### 3.8 FINISHING UNFORMED SURFACES

The finish of all unformed surfaces shall meet the requirements of paragraph Tolerances in PART 1, when tested as specified herein.

#### 3.8.1 General

Unformed surfaces that are not to be covered by additional concrete or backfill shall have a float finish, with additional finishing as specified below, and shall be true to the elevation shown on the drawings. Unless otherwise shown on the drawings, exterior surfaces shall be sloped for drainage, as directed. Joints shall be carefully made with a jointing or edging tool. The dusting of surfaces with dry cement or other materials or the addition of any water during finishing shall not be permitted. If bleed water is present prior to finishing, the excess water shall be carefully dragged off or removed by absorption with porous materials such as burlap. Slabs with surfaces which exhibit significant crazing shall be removed and replaced.

#### 3.8.2 Rough Slab Finish

As a first finishing operation for unformed surfaces the surface shall receive a rough slab finish. The concrete shall be screeded with straightedge strike offs immediately after consolidation to bring the surface to the required finish level with no coarse aggregate visible. Side forms and screed rails shall be provided, rigidly supported, and set to exact line and grade.

#### 3.8.3 Floated Finish

Screeding shall be followed immediately by darbying or bull floating before bleeding water is present, to bring the surface to a true, even plane. After the concrete has stiffened it shall be floated to a true and even plane free of ridges. Floating shall be performed by use of suitable hand floats or power driven equipment.

#### 3.8.4 Broomed Finish

After floating, the surface shall be carefully scored by pulling a coarse fiber push-type broom across the surface. Brooming shall be transverse to traffic or at right angles to the slope of the slab. After the end of the curing period, the surface shall be vigorously broomed with a coarse fiber

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broom to remove all loose or semi-detached particles.

### 3.9 CURING AND PROTECTION

Concrete shall be cured by an approved method for a period of 7 days.

#### 3.9.1 General

Immediately after placement, concrete shall be protected from premature drying, extremes in temperatures, rapid temperature change, mechanical injury and damage from rain and flowing water. Materials and equipment needed for adequate curing and protection shall be available and at the site prior to placing concrete. . Concrete shall be protected from the damaging effects of rain for 12 hours and from flowing water for 7 days. No fire or excessive heat, including welding, shall be permitted near or in direct contact with the concrete at any time.

#### 3.9.2 Moist Curing

Concrete to be moist-cured shall be maintained continuously wet for the entire curing period, commencing immediately after finishing. When wooden forms are left in place during curing, they shall be kept wet at all times.

Surfaces shall be cured by ponding, by continuous sprinkling, by continuously saturated burlap or cotton mats, or by continuously saturated plastic coated burlap. Burlap and mats shall be clean and free from any contamination and shall be completely saturated before being placed on the concrete. The Contractor shall have an approved work system to ensure that moist curing is continuous 24 hours per day. If inspection identifies an area of inadequate curing, immediate corrective action shall be taken, and the required curing period for those areas shall be extended by 1 day.

#### 3.9.3 Membrane Forming Curing Compounds

Clear or translucent membrane-forming compound with fugitive dye shall be used on all surfaces permanently exposed to view, and white pigmented compound may be used on all other surfaces.

Curing compound shall be applied to formed surfaces immediately after the forms are removed and prior to any patching or other surface treatment except the cleaning of loose sand, mortar, and debris from the surface. All surfaces shall be thoroughly moistened with water. Curing compound shall be applied to slab surfaces as soon as the bleeding water has disappeared, with the tops of joints being temporarily sealed to prevent entry of the compound and to prevent moisture loss during the curing period. The curing compound shall be applied in a two-coat continuous operation by approved motorized power-spraying equipment operating at a minimum pressure of 75 psi, at a uniform coverage of not more than 400 square feet per gallon for each coat, and the second coat shall be applied perpendicular to the first coat. Concrete surfaces which have been subjected to rainfall within 3 hours after curing compound has been applied shall be resprayed by the method and at the coverage specified. Surfaces on which clear compound is used shall be shaded from direct rays of the sun for the first 3 days. Surfaces coated with curing compound shall be kept free of foot and vehicular traffic, and from other sources of abrasion and contamination during the curing period.

Appearance is a primary consideration for exterior concrete surfaces exposed to view. The Contractor shall exercise extreme care to apply curing compound evenly on these surfaces. Variations in shade, color, or

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tint, resulting from uneven application of curing compound, shall be repaired by and at the expense of the Contractor as directed.

### 3.9.4 Impervious Sheeting

Surfaces shall be thoroughly wetted and be completely covered with sheeting. Sheeting shall be at least 18 inches wider than the concrete surface to be covered. Covering shall be laid with light-colored side up. Covering shall be lapped not less than 12 inches and securely weighted down or shall be lapped not less than 4 inches and taped to form a continuous cover with completely closed joints. The sheet shall be weighted to prevent displacement so that it remains in contact with the concrete during the specified length of curing. Coverings shall be folded down over exposed edges of slabs and secured by approved means. Sheets shall be immediately repaired or replaced if tears or holes appear during the curing period. If inspection identifies tears, holes, laps or joints that are not completely closed, the tears and holes shall promptly be repaired or the sheets replaced, the joints closed, and the required curing period for those areas shall be extended by 1 day.

### 3.9.5 Ponding or Immersion

Water shall not be more than 20 degrees F less than the temperature of the concrete.

### 3.9.6 Cold Weather Curing and Protection

When the daily outdoor low temperature is less than 32 degrees F, the temperature of the concrete shall be maintained above 50 degrees F for the first 7 days after placing. In addition, during the period of protection removal, the air temperature adjacent to the concrete surfaces shall be controlled so that concrete near the surface will not be subjected to a temperature differential of more than 25 degrees F as determined by observation of ambient and concrete temperatures indicated by suitable temperatures measuring devices furnished by the Government as required and installed adjacent to the concrete surface and 2 inches inside the surface of the concrete. The installation of the thermometers shall be made by the Contractor at such locations as may be directed.

## 3.10 TESTING AND INSPECTION FOR CONTRACTOR QUALITY CONTROL

The Contractor shall perform the inspection and tests described below and, based upon the results of these inspections and tests, shall take the action required and shall submit specified reports. When, in the opinion of the Contracting Officer, the concreting operation is out of control, concrete placement shall cease and the operation shall be corrected. The laboratory performing the tests shall conform with ASTM C 1077. If the Government conducts quality assurance testing, the Contractor shall assist in collection of samples as directed. All necessary platforms, tools, and equipment for obtaining samples shall be furnished by the Contractor.

### 3.10.1 Grading and Corrective Action

#### 3.10.1.1 Fine Aggregate

##### a. Grading.

At least once during each shift when the concrete plant is operating, there shall be one sieve analysis and fineness modulus determination in

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accordance with ASTM C 136 and COE CRD-C 104 for the fine aggregate or for each size range of fine aggregate if it is batched in more than one size or classification. The location at which samples are taken may be selected by the Contractor as the most advantageous for control. However, the Contractor is responsible for delivering fine aggregate to the mixer within specification limits.

### b. Corrective Action for Fine Aggregate Grading.

When the amount passing on any sieve is outside the specification limits, the fine aggregate shall be immediately resampled and retested. If there is another failure on any sieve, the fact shall immediately be reported to the Contracting Officer.

### c. Moisture Content Testing.

When in the opinion of the Contracting Officer the electric moisture meter is not operating satisfactorily, there shall be at least four tests for moisture content in accordance with ASTM C 566 during each 8-hour period of mixing plant operation. The times for the tests shall be selected randomly within the 8-hour period. An additional test shall be made whenever the slump is shown to be out of control or excessive variation in workability is reported by the placing foreman. When the electric moisture meter is operating satisfactorily, at least two direct measurements of moisture content shall be made per week to check the calibration of the meter. The results of tests for moisture content shall be used to adjust the added water in the control of the batch plant.

### d. Moisture Content Corrective Action.

Whenever the moisture content of the fine aggregate changes by 0.5 percent or more, the scale settings for the fine aggregate batcher and water batcher shall be adjusted (directly or by means of a moisture compensation device) if necessary to maintain the specified slump.

## 3.10.1.2 Coarse Aggregate

### a. Grading.

At least once during each shift in which the concrete plant is operating, there shall be a sieve analysis in accordance with ASTM C 136 for each size of coarse aggregate. The location at which samples are taken may be selected by the Contractor as the most advantageous for production control. However, the Contractor shall be responsible for delivering the aggregate to the mixer within specification limits. A test record of samples of aggregate taken at the same locations shall show the results of the current test as well as the average results of the five most recent tests including the current test. The Contractor may adopt limits for control which are coarser than the specification limits for samples taken at locations other than as delivered to the mixer to allow for degradation during handling.

### b. Corrective Action for Grading.

When the amount passing any sieve is outside the specification limits, the coarse aggregate shall be immediately resampled and retested. If the second sample fails on any sieve, that fact shall be reported to the Contracting Officer. Where two consecutive averages of five tests are outside specification limits, the operation shall be considered out of

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control and shall be reported to the Contracting Officer. Concreting shall be stopped and immediate steps shall be taken to correct the grading.

### c. Coarse Aggregate Moisture Content.

A test for moisture content of each size group of coarse aggregate shall be made at least twice per week. When two consecutive readings for smallest size coarse aggregate differ by more than 1.0 percent, frequency of testing shall be increased to that specified above for fine aggregate, until the difference falls below 1.0 percent.

### d. Coarse Aggregate Moisture Corrective Action.

Whenever the moisture content of any size of coarse aggregate changes by 0.5 percent or more, the scale setting for the coarse aggregate batcher and the water batcher shall be adjusted if necessary to maintain the specified slump.

## 3.10.1.3 Scales

### a. Weighing Accuracy.

The accuracy of the scales shall be checked by test weights prior to start of concrete operations and at least once every 6 months for conformance with the applicable requirements of paragraph BATCHING EQUIPMENT. Such tests shall also be made as directed whenever there are variations in properties of the fresh concrete that could result from batching errors.

### b. Batching and Recording Accuracy.

Once a week the accuracy of each batching and recording device shall be checked during a weighing operation by noting and recording the required weight, recorded weight, and the actual weight batched. The Contractor shall confirm that the calibration devices described in paragraph BATCH PLANT for checking the accuracy of dispensed admixtures are operating properly.

### c. Scales Corrective Action.

When either the weighing accuracy or batching accuracy does not comply with specification requirements, the plant shall not be operated until necessary adjustments or repairs have been made. Discrepancies in recording accuracies shall be corrected immediately.

## 3.10.2 Concrete Mixture

Each load of Self-Consolidating Concrete(SCC) shall be tested for Slump Flow, VSI, T50cm test methods. Air Content and Temperature testing will be done each time Compressive strength specimens are fabricated. Concrete shall be sampled in accordance with ASTM C 172.

### a. Air Content Testing.

Air content tests shall be measured when compressive strength specimens are fabricated. In addition, tests shall be made when excessive variation in workability is reported by the placing foreman or Government quality assurance representative. Concrete for specified air content shall be obtained from the discharge of the readi-mix truck. Measurement shall be in accordance with ASTM C 231. As soon as is practical after each adjustment, another test shall be made to verify

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the result of the adjustment. The air content shall be reported along with the compressive strength data.

### b. Slump Flow Testing, VSI and T50.

The concrete slump flow with VSI and T50 shall be measured for each load of SCC in accordance with the test procedures in Attachment No.1 at the end of this section. Results of the slump flow test, VSI and T50 shall be reported immediately to the Contracting Officer.

### c. Temperature.

The temperature of the concrete shall be measured when compressive strength specimens are fabricated. Measurement shall be in accordance with ASTM C 1064. The temperature shall be reported along with the compressive strength data.

### d. Strength Specimens.

Test cylinders shall be cast for compressive strength tests for each mix design at the following rates:

- a. A minimum of four 4-in. by 8-in. cylinders shall be made from each load of concrete placed, but not more than eight cylinders per day are required. Two additional cylinders may be prepared for use in determining when the form work may be removed.

A set of test specimens shall consist of four cylinders, one to be tested at 3 days and two at 7 days. If either of the 7 day breaks does not meet the specified strength, the fourth cylinder shall be tested at 14 days, otherwise it shall be discarded. Test specimens shall be molded and cured in accordance with ASTM C 31 and tested in accordance with ASTM C 39. Results of all strength tests shall be reported immediately to the Contracting Officer.

### 3.10.3 Inspection Before Placing

Foundations, construction joints, forms, and embedded items shall be inspected by the Contractor in sufficient time prior to each concrete placement in order to certify to the Contracting Officer that they are ready to receive concrete. Full cooperation shall be given other trades to install embedded items. Suitable templates or instructions shall be used for setting items not placed in the forms.

### 3.10.4 Curing

#### a. Moist-Curing Inspections.

At least once each shift, and once per day on nonwork days an inspection shall be made of all areas subject to moist curing. The surface moisture condition shall be noted and recorded.

#### b. Moist-Curing Corrective Action.

When a daily inspection report lists an area of inadequate curing, immediate corrective action shall be taken, and the required curing period for such areas shall be extended by one (1) day.



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### c. Membrane-Curing Inspection.

No curing compound shall be applied until the Contractor's authorized representative has verified that the compound is properly mixed and ready for spraying. At the end of each operation, he shall estimate the quantity of compound used by measurement of the container and the area of concrete surface covered and compute the rate of coverage in square meters per liter (square feet per gallon). He shall note whether or not coverage is uniform.

### d. Membrane-Curing Corrective Action.

When the coverage rate of the curing compound is less than that specified or when the coverage is not uniform, the entire surface shall be sprayed again.

### e. Sheet-Curing Inspection.

At least once each shift and once per day on nonwork days, an inspection shall be made of all areas being cured using material sheets. The condition of the covering and the tightness of the laps and tapes shall be noted and recorded.

### f. Sheet-Curing Corrective Action.

When a daily inspection report lists any tears, holes, or laps or joints that are not completely closed, the tears and holes shall promptly be repaired or the sheets replaced, the joints closed, and the required curing period for those areas shall be extended by one (1) day.

Text

## 3.10.5 Cold-Weather Protection

At least once each shift and once per day on nonwork days, an inspection shall be made of all areas subject to cold weather protection. The protection system shall be inspected for holes, tears, unsealed joints, or other deficiencies that could result in damage to the concrete. Special attention shall be taken at edges, corners, and thin sections. Any deficiencies shall be noted, corrected, and reported. When a daily inspection report lists any holes, tears, unsealed joints, or other deficiencies, the deficiency shall be corrected immediately and the period of protection extended 1 day.

## 3.10.6 Reports

The results of all tests and inspections conducted at the project site, as well as corrective actions taken, shall be reported in writing weekly and shall be delivered to the quality assurance representative within three days after the end of each weekly reporting period. The Contracting Officer has the right to examine all Contractor quality control records.

-- End of Section --

# **Attachment No 1: Instructions for Slump Flow Test, VSI and T<sub>50cm</sub>**

## **1. Scope**

The slump flow test is used to determine filling ability and can indicate segregation resistance of self-compacting concrete to an experienced user.

## **2. References**

ASTM C 143	Slump of Hydraulic Cement Concrete
ASTM C 172	Sampling Freshly Mixed Concrete

## **3. Principle**

The fresh concrete is poured into a mold in the shape of a frustum of a cone. When the cone is withdrawn upwards, the distance the concrete has spread provides a measure of the consistency of the concrete.

## **4. Apparatus**

- 4.1. Mold to form the test specimen shall be as required per ASTM C 143, (Typical 12 in. slump cone)
- 4.2. Base plate/surface, non-absorbent, rigid, flat plate or other surface, with a concentric diameter of 50 cm marked on it, on which to place the mold.
- 4.3. Moist cloth
- 4.4. Scoop, approximately 4 inches in width.
- 4.5. Rule, or measuring tape, graduated and at least 1 meter long.
- 4.6. Timer capable of measuring to 1 second.

## **5. Test sample**

The sample of the concrete shall be obtained in accordance with ASTM C 172.

## **6. Procedure**

- 6.1 Make sure that the base plate is horizontal, has a smooth surface and that a concentric circle with a diameter of 50 cm is marked on the plate. The material of the surface of the base plate can have some influence and the same type should be used both at the concrete plant and on the site.
- 6.2 Clean the surface and the cone with water and dry them with a cloth so they are moist but without free water.
- 6.3 Place the slump cone centrally on the plate.
- 6.4 Fill the slump cone with concrete while pressing the slump cone to the plate.
- 6.5 Distinctly lift the slump cone vertically. Start timing when lifting of the slump cone starts.

## **7. Test results**

- 7.1 Record the time for the concrete diameter to reach 50 cm (T<sub>50</sub>).
- 7.2 When the concrete has stopped flowing, measure the final diameter (D-final) of the concrete by measuring two perpendicular diameters and the segregation border at the concrete periphery, see Fig 1. Note whether coarse aggregates have been transported to the periphery. If you see a segregation border it can indicate segregation.
- 7.3 Examine the slump flow and give it a visual rating of static stability (VSI) based on the following observed characteristics of the spread:

## Attachment No 1: Instructions for Slump Flow Test, VSI and T<sub>50cm</sub>

**0 = Highly Stable** - No evidence of segregation in slump flow spread or in mixer drum or wheelbarrow. See figure 2.

**1 = Stable** - No mortar halo or aggregate pile in the slump flow spread, but some slight bleed or air popping on the surface of the concrete in the mixer drum, or wheelbarrow is permitted. See figure 3.

**2 = Unstable** – A slight mortar halo (<10mm) and/or aggregate pile in the slump flow spread and/or highly noticeable bleeding in the mixer drum and wheelbarrow. See figure 4.

**3 = Unstable** - Clearly segregating by evidence of a large mortar halo (> 10 mm) and/or a large aggregate pile into the center of the concrete spread and a thick layer of paste on the surface of the resting concrete in the mixer drum or wheelbarrow. See figure 5.

### 8. Test report

The test report to include:

- 8.1. Identification of the test sample
- 8.2. Location of performance of test
- 8.3. Date of performance of test
- 8.4. Measured T<sub>50</sub>
- 8.5. Measured slump flow value
- 8.6. Notation whether a segregation boarder is observed
- 8.7. VSI rating
- 8.8. Any deviation from this procedure
- 8.9. A declaration from the person technically responsible for the test that the testing was carried out in accordance with this procedure, except as noted in item 8.8.

### 9. Precision

Normal criteria for the test are:

- 9.1. T<sub>50</sub> shall be >3 < 7 s.
- 9.2. Slump flow shall be > 60 cm < 70 cm.

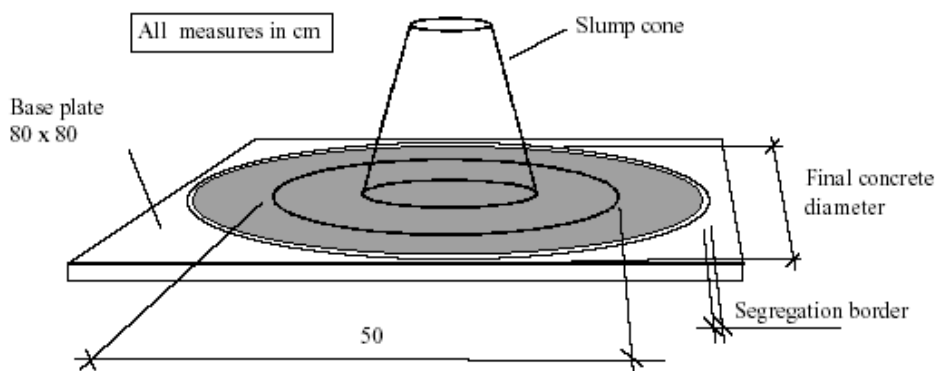


Fig 1. The slump flow test.



Figure No.2 (VSI = 0)

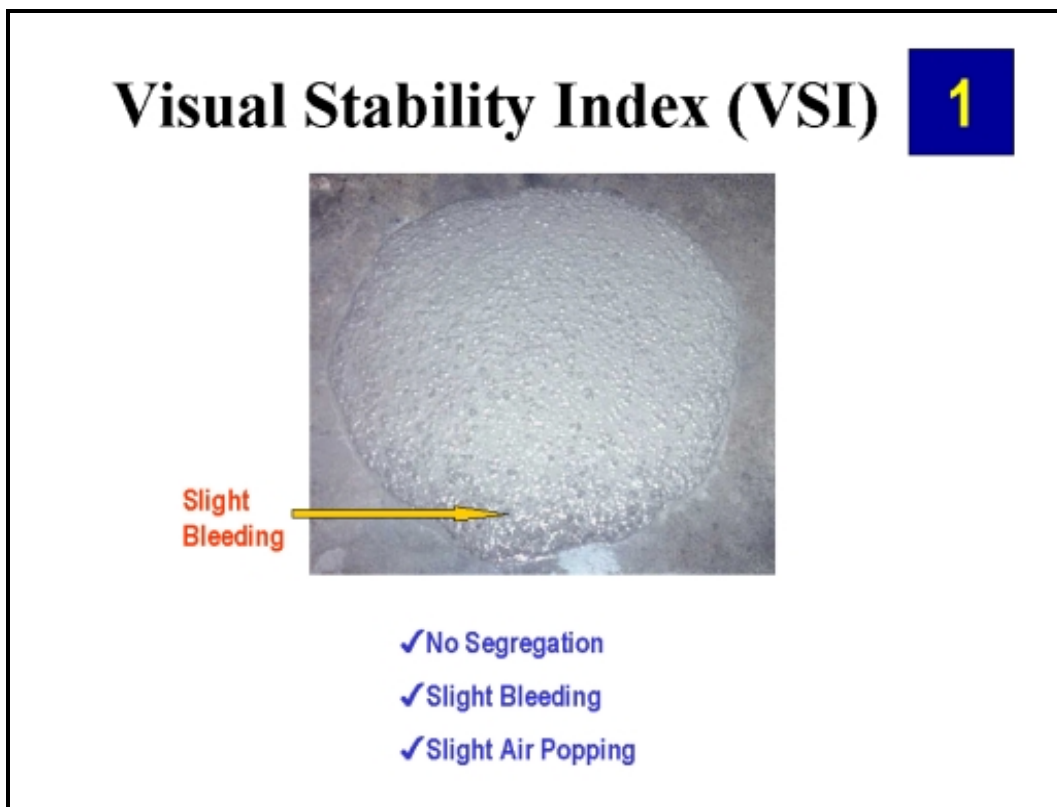


Figure No.3. (VSI = 1)

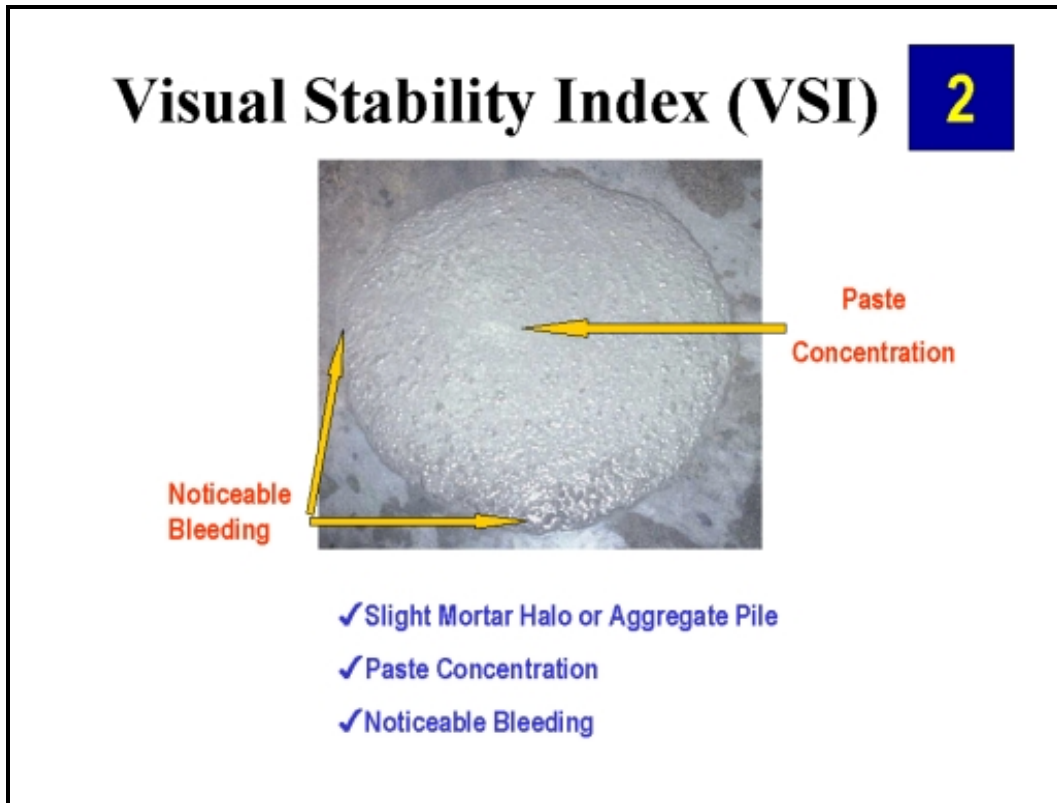


Figure No. 4 (VSI = 2)

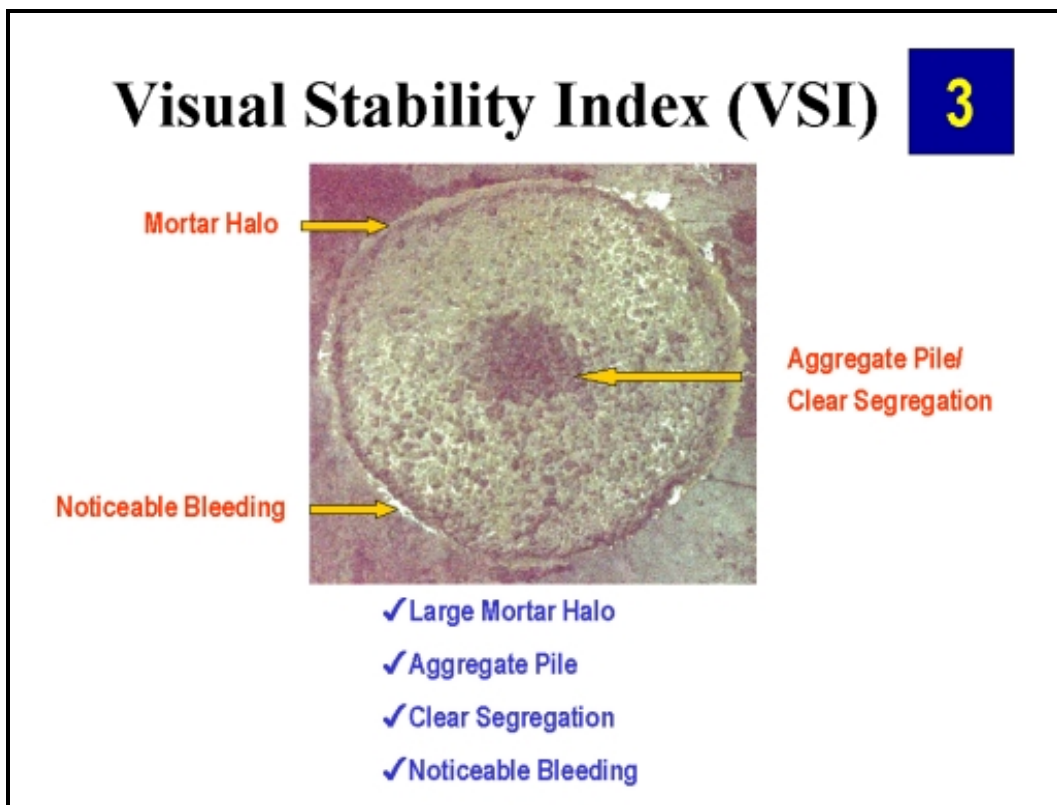


Figure No. 5 (VSI = 3)

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## SECTION 03101

### FORMWORK FOR CONCRETE

#### PART 1 GENERAL

##### 1.1 SCOPE

The work covered by this section includes furnishing all labor, equipment, and materials and performing all operations necessary for forming the cast-in-place concrete, as indicated on the drawings and as specified herein.

##### 1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

###### ACI INTERNATIONAL (ACI)

ACI 347R (1994; R 1999) Guide to Formwork for Concrete

###### AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM C 1077 (1998) Laboratories Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Laboratory Evaluation

##### 1.3 DESIGN REQUIREMENTS

The design, engineering, and construction of the formwork shall be the responsibility of the Contractor. The formwork shall be designed for anticipated live and dead loads and shall comply with the tolerances specified in Section 03300 CAST-IN-PLACE STRUCTURAL CONCRETE, paragraph CONSTRUCTION TOLERANCES. However, for surfaces with an ACI Class A surface designation, the allowable deflection for facing material between studs, for studs between walers and walers between bracing shall be limited to 0.0025 times the span. The formwork shall be designed as a complete system with consideration given to the effects of cementitious materials and mixture additives such as fly ash, cement type, plasticizers, accelerators, retarders, air entrainment, and others. The adequacy of formwork design and construction shall be monitored prior to and during concrete placement as part of the Contractor's approved Quality Control Plan.

##### 1.4 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

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### SD-02 Shop Drawings

Shop Drawings; G, STR

Drawings and design computations for all formwork required shall be submitted at least 30 days either before fabrication on site or before delivery of prefabricated forms. The drawing and data submitted shall include the type, size, quantity, and strength of all materials of which the forms are made, the plan for jointing of facing panels, details affecting the appearance, and the assumed design values and loading conditions. Design computations and drawings shall be stamped by a registered professional engineer.

### SD-03 Product Data

Materials; G, STR

Manufacturer's literature shall be submitted for plywood, concrete form hard board, form accessories, strongback accessories, prefabricated forms, form coatings, and form-lining materials.

### SD-05 Design Data

Test Reports;

The Contractor shall submit field inspection reports for concrete forms and embedded items.

## 1.5 SHOP DRAWINGS

The shop drawings and data submitted shall include the type, size, quantity, and strength of all materials of which the forms are made, the plan for jointing of facing panels, details affecting the appearance, and the assumed design values and loading conditions.

## PART 2 PRODUCTS

### 2.1 MATERIALS

#### 2.1.1 Forms and Form Liners

Forms and form liners shall be fabricated with facing materials that will produce a finish meeting the specified irregularities in formed surface requirements as defined in ACI 347R. Forms and form liners shall be fabricated with facing materials as specified below.

##### 2.1.1.1 Class "B" Finish

This class of finish shall apply to the vertical faces of the stoplog slots. The form facing material shall be composed of tongue-and-groove or shiplap lumber, plywood conforming to DOC PS 1, Grade B-B concrete form, tempered concrete form hard board or steel. Steel lining on wood sheathing will not be permitted.

#### 2.1.2 Form Coating

Form coating shall be commercial formulation that will not bond with, stain, cause deterioration, or any other damage to concrete surfaces. The coating shall not impair subsequent treatment of concrete surfaces



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depending upon bond or adhesion nor impede the wetting of surfaces to be cured with water or curing compounds. If special form liners are to be used, the Contractor shall follow the recommendation of the form coating manufacturer.

### 2.2 ACCESSORIES

Ties and other similar form accessories to be partially or wholly embedded in the concrete shall be of a commercially manufactured type. After the ends or end fasteners have been removed, the embedded portion of metal ties shall terminate not less than 2 inches from any concrete surface either exposed to view or exposed to water. Removable tie rods shall not be allowed. Plastic snap ties may be used in locations where the surface will not be exposed to view. Form ties shall be constructed so that the ends or end fasteners can be removed without spalling the concrete.

## PART 3 EXECUTION

### 3.1 INSTALLATION

#### 3.1.1 Form Construction

Forms shall be constructed true to the structural design and required alignment. The form surface and joints shall be mortar tight and supported to achieve safe performance during construction, concrete placement, and form removal. The Contractor shall continuously monitor the alignment and stability of the forms during all phases to assure the finished product will meet the required surface classes specified in paragraph FORMS AND FORM LINERS and tolerances specified in paragraph DESIGN REQUIREMENTS. Failure of any supporting surface either due to surface texture, deflection or form collapse shall be the responsibility of the Contractor as will the replacement or correction of unsatisfactory surfaces. When forms for continuous surfaces are placed in successive units, care shall be taken to fit the forms over the completed surface to obtain accurate alignment of the surface and to prevent leakage of mortar. Forms shall not be re-used if there is any evidence of defects which would impair the quality of the resulting concrete surface. All surfaces of used forms shall be cleaned of mortar and any other foreign material before reuse.

#### 3.1.2 Chamfering

All exposed joints, edges and external corners shall be chamfered by molding placed in the forms unless the drawings specifically state that chamfering is to be omitted or as otherwise specified. Chamfered joints shall not be permitted where earth or rockfill is placed in contact with concrete surfaces. Chamfered joints shall be terminated twelve inches outside the limit of the earth or rockfill so that the end of the chamfers will be clearly visible.

#### 3.1.3 Coating

Forms for exposed or painted surfaces shall be coated with form oil or a form-release agent before the form or reinforcement is placed in final position. The coating shall be used as recommended in the manufacturer's instructions. Forms for unexposed surfaces may be wet with water in lieu of coating immediately before placing concrete, except that, in cold weather when freezing temperatures are anticipated, coating shall be mandatory. Surplus coating on form surfaces and coating on reinforcing steel and construction joints shall be removed before placing concrete.

### 3.2 FORM REMOVAL

Forms shall not be removed without approval. The minimal time required for concrete to reach a strength adequate for removal of formwork without risking the safety of workers or the quality of the concrete depends on a number of factors including, but not limited to, ambient temperature, concrete lift heights, type and amount of concrete admixture, and type and amount of cementitious material in the concrete. It is the responsibility of the Contractor to consider all applicable factors and leave the forms in place until it is safe to remove them. In any case forms shall not be removed unless the minimum compressive strength requirements below are met, except as otherwise directed or specifically authorized. When conditions are such as to justify the requirement, forms will be required to remain in place for a longer period. All removal shall be accomplished in a manner which will prevent damage to the concrete and ensure the complete safety of the structure. Where forms support more than one element, the forms shall not be removed until the form removal criteria are met by all supported elements. Form removal shall be scheduled so that all necessary repairs can be performed as specified in Section 03300: CAST-IN-PLACE STRUCTURAL CONCRETE, paragraph FORMED SURFACE REPAIRS. Evidence that concrete has gained sufficient strength to permit removal of forms shall be determined by tests on control cylinders. All control cylinders shall be stored in the structure or as near the structure as possible so they receive the same curing conditions and protection methods as given those portions of the structure they represent. Control cylinders shall be removed from the molds at an age of no more than 24 hours. All control cylinders shall be prepared and tested in accordance with ASTM C 31 and ASTM C 39 at the expense of the Contractor by an independent laboratory that complies with ASTM C 1077 and shall be tested within 4 hours after removal from the site.

#### 3.2.1 Formwork Not Supporting Weight of Concrete

Formwork for walls, columns, sides of beams, gravity structures, and other vertical type formwork not supporting the weight of concrete shall not be removed in less than 24 hours after concrete placement is completed.

#### 3.2.2 Formwork Supporting Weight of Concrete

Formwork supporting weight of concrete and shoring shall not be removed until structural members have acquired sufficient strength to safely support their own weight and any construction or other superimposed loads to which the supported concrete may be subjected. As a minimum, forms shall be left in place until control concrete test cylinders indicate evidence the concrete has attained at least 70 percent of the compressive strength required for the structure in accordance with the quality and location requirements of Section 03300: CAST-IN-PLACE STRUCTURAL CONCRETE, paragraphs CONCRETE STRENGTH and COMPRESSIVE STRENGTH SPECIMENS.

### 3.3 INSPECTION

The Contractor shall inspect forms and embedded items in sufficient time prior to each concrete placement in order to certify to the Contracting Officer that they are ready to receive concrete. The results of each inspection shall be reported in writing.

-- End of Section --

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# Locks 2 & 5 Stoplog Slot Installation

## SECTION 03151

### EXPANSION AND CONSTRUCTION JOINTS IN CONCRETE

#### PART 1 GENERAL

##### 1.1 SCOPE

The work covered by this section includes furnishing all labor, equipment, and materials and performing all operations necessary for forming expansion, contraction and construction joints in concrete, as indicated on the drawings and as specified herein.

##### 1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

#### AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM C 920	(1998) Elastomeric Joint Sealants
ASTM D 1752	(1984; R 1996el) Preformed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving and Structural Construction
ASTM D 2822	(1991; R 1997el) Asphalt Roof Cement

##### 1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

#### SD-01 Preconstruction Submittals

##### Bond Breaker Materials; G, COR

Prior to construction, the Contractor shall submit for approval all bond breaker materials to be used, including oil/grease, or other debonding agents. Submittal shall identify the location each material shall be used.

#### SD-04 Samples

##### Field Molded Sealants and Primer;

One gallon of field-molded sealant and one quart of primer (when primer is recommended by the sealant manufacturer) shall be

## Locks 2 & 5 Stoplog Slot Installation

provided for testing.

### SD-06 Test Reports

Premolded Expansion Joint Filler Strips; G, STR  
Field Molded Joint Sealants; G, STR

Certified manufacturer's test reports shall be provided for premolded expansion joint filler strips and field-molded joint sealants to verify compliance with applicable specification. Certification shall be current, within six months of contract award date.

### SD-08 Manufacturer's Instructions

Cold Weather Joint Sealing; G, MAT

If joint sealant is applied or cured when substrate and ambient temperatures are below 40 degrees F, the proposed methods of application and curing, in accordance with paragraph COLD WEATHER JOINT SEALING, shall be submitted. The submittal shall also include the manufacturer's instruction for installing sealants and premolded expansion joint filler strips.

## 1.4 JOINT SEALING REQUIREMENTS

Sealant applied to joints on the lock walls shall be completely cured before water immersion.

## PART 2 PRODUCTS

### 2.1 MATERIALS

#### 2.1.1 Premolded Expansion Joint Filler Strips

Premolded expansion joint filler strips shall conform to ASTM D 1752, Type I, sponge rubber.

#### 2.1.2 Joint Seals and Sealants

##### 2.1.2.1 Field Molded Sealants and Primer

Field molded sealants and primer shall conform to ASTM C 920, Type M, Grade NS, Class 25, use NT for vertical joints and Type M, Grade P, Class 25, use T for horizontal joints. Color of sealant shall be gray. All sealant used on vertical walls shall be suitable for immersion in water at pressures up to 15 pounds per square inch. Bond breaker material shall be polyethylene tape, coated paper, metal foil or similar type materials. The back-up material shall be compressible, non-shrink, non-reactive with sealant, and non-absorptive material type such as extruded butyl or polychloroprene foam rubber. Regardless whether bond breakers are shown on drawings, bond breakers shall be applied to the joint filler or backer material when recommended by the sealant manufacturer.

##### 2.1.3 Bituminous Cement Bond Breaker

Bituminous cement bond breaker shall conform to ASTM D 2822, Class I or II.

## 2.2 TESTS, INSPECTIONS, AND VERIFICATIONS

### 2.2.1 Materials Tests

#### 2.2.1.1 Field-Molded Sealants

Samples of sealant and primer, when use of primer is recommended by the manufacturer, as required in paragraph FIELD MOLDED SEALANTS AND PRIMER, shall be tested by and at the expense of the Government for compliance with paragraph FIELD MOLDED SEALANTS AND PRIMER. If the sample fails to meet specification requirements, new samples shall be provided and the cost of retesting will be deducted from payments due the Contractor.

## PART 3 EXECUTION

### 3.1 INSTALLATION

Joint locations and details, including materials and methods of installation of joint fillers, shall be as specified, as shown, and as directed. In no case shall any fixed metal be continuous through an expansion joint. Positioning of joint filler material on centerlines of monolith joints near vertical faces of walls is critical. Joint filler material shall not be installed until the concrete on one side of the monolith joint has hardened.

#### 3.1.1 Joints with Premolded Filler

Premolded filler strips shall have oiled wood strips secured to the top thereof and shall be accurately positioned and secured against displacement to clean, smooth concrete surfaces. The wood strips shall be slightly tapered, dressed and of the size required to install filler strips at the desired level below the finished concrete surface and to form the groove for the joint sealant or seals to the size shown. Material used to secure premolded fillers and wood strips to concrete shall not harm the concrete and shall be compatible with the joint sealant or seals. The wood strips shall not be removed until after the concrete curing period. The groove shall be thoroughly cleaned of all laitance, curing compound, foreign materials, protrusions of hardened concrete and any dust which shall be blown out of the groove with oil-free compressed air.

#### 3.1.2 Joints With Field-Molded Sealant

Immediately prior to installation of field molded sealants, the joint shall be cleaned of all debris and further cleaned using water, chemical solvents or other means as recommended by the sealant manufacturer. The joints shall be dry prior to filling with sealant. Bond breaker and back-up material shall be installed where required. If primer is recommended for use by the sealant manufacturer on the substrates to which sealant is to be applied, it shall be applied in the manner and at the rate recommended by the manufacturer. Sealant shall be applied after priming within the sealant manufacturer's recommended time limits. Joints shall be filled flush with joint sealant in accordance with the manufacturer's recommendations.

#### 3.1.3 Joints With Preformed Compression Seals

The joint seals shall be installed with equipment which shall be capable of installing joint seals to the prescribed depth without cutting, nicking, twisting, or otherwise distorting or damaging the seal and with no more

## Locks 2 & 5 Stoplog Slot Installation

than five percent stretching of the seal. The sides of the joint and, if necessary, the sides of the compression seal shall be covered with a coating of lubricant, and the seal shall be installed to the depth indicated with joint installation equipment. Butt joints shall be coated with liberal applications of lubricant.

### 3.1.4 Cold Weather Joint Sealing

Joints shall not be sealed when the sealant, air or substrate temperature is below 40 degrees F. If sealant is applied when ambient temperatures are below 40 degrees F, Contractor shall follow the methods previously submitted in accordance with paragraph SUBMITTALS. The sealant, adjacent substrate and adjacent air shall be maintained at a temperature and for a length of time to produce complete curing, in accordance with the manufacturer's recommendations.

### 3.1.5 Contraction Joints

Joints requiring a bond breaker shall be coated with bituminous cement. Waterstops shall be protected during application of bond breaking material to prevent them from being coated.

-- End of Section --

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## SECTION 03201

### STEEL BARS FOR CONCRETE REINFORCEMENT

#### PART 1 GENERAL

##### 1.1 SCOPE

The work covered by this section includes furnishing all labor, equipment, and materials and performing all operations necessary for fabrication and placement of reinforcing steel for cast-in-place concrete construction.

##### 1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

#### ACI INTERNATIONAL (ACI)

ACI 315 (1999) Details and Detailing of Concrete Reinforcement

ACI 318/318R (1999) Building Code Requirements for Structural Concrete and Commentary

#### AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM A 370 (1997a) Mechanical Testing of Steel Products

#### AMERICAN WELDING SOCIETY (AWS)

AWS D1.4 (1998) Structural Welding Code - Reinforcing Steel

##### 1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

#### SD-01 Preconstruction Submittals

Welding of Reinforcement Steel; G, STR

Schedules of welding procedures for reinforcement steel shall be submitted and approved prior to commencing fabrication.

#### SD-02 Shop Drawings

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### Fabrication and Placement; G, STR

The Contractor shall submit shop drawings which include: reinforcing steel placement, schedules, sizes, grades, and splicing, bending, and welding details. Drawings shall show support details including types, sizes and spacing. Complete shop drawings shall be submitted. The shop drawings shall contain a statement certifying that they are in compliance with the specifications and contract drawings. The shop drawing shall include details of the bending and placing schedule of the steel reinforcement, together with bar schedules indicating the number, size, dimensions, and total length of various bars required. Bar lists and bending diagrams shall be checked for accuracy and completeness before the bars are fabricated. Details of typical supports for reinforcing steel shall be approved prior to placing any concrete. Shop drawings shall show all concrete dimensions, location of all reinforcement, elevations, reinforcing steel clearances, and the location of all construction joints shown on the drawings or proposed by the Contractor. The drawings shall show support details including types, sizes and spacing. Spacing between vertical reinforcing steel shall be shown on the wall elevations. The minimum scale used in the shop drawings shall be 3/8-inch to the foot (1:30).

### SD-03 Product Data

#### Manufacturer's Literature; G, STR

Manufacturer's literature shall be submitted for the epoxy grout to be used for dowels and anchor bolts. The manufacturer shall certify the minimum ultimate pull-out strengths.

### SD-06 Test Reports

#### Material; G, STR

#### Tests, Inspections, and Verifications; G, STR

Certified tests reports of reinforcement steel showing that the steel complies with the applicable specifications shall be furnished for each steel shipment and identified with specific lots prior to placement. Three copies of the heat analyses shall be provided for each lot of steel furnished and the Contractor shall certify that the steel conforms to the heat analyses.

#### Materials Tests, Welding Procedures and Qualifications; Weld Examinations and Testing; G, STR

Certified test reports for material tests and analyses, examinations including visual examination and nondestructive testing of welds, welding procedures and welding operator qualifications shall be submitted in triplicate. Test reports for material tests and analyses shall be identified with specific lots and items prior to installation.

### SD-07 Certificates

#### Qualification of Welders and Welding Operators; G, STR

## Locks 2 & 5 Stoplog Slot Installation

Certifications for welders and welding operators shall be submitted prior to commencing fabrication.

### PART 2 PRODUCTS

#### 2.1 MATERIALS

Materials shall conform to the following requirements.

##### 2.1.1 Steel Bars

Steel bars shall comply with the requirements of ASTM A 615, Grade 60, of the sizes and lengths shown on the drawings. Welded steel bars shall comply with ASTM A706.

##### 2.1.1.1 Dowels

Dowels shall comply with the requirements of ASTM A 615, Grade 60, of the sizes and lengths shown on the drawings. Welded steel bars shall comply with ASTM A706.

##### 2.1.2 Accessories

##### 2.1.2.1 Bar Supports

Bar supports shall comply with the requirements of ACI 315. Supports for bars in concrete with formed surfaces exposed to view or to be painted shall be plastic-coated wire or stainless steel.

##### 2.1.2.2 Wire Ties

Wire ties shall be 16 gage or heavier black annealed wire. Ties for epoxy-coated bars shall be vinyl-coated or epoxy-coated.

##### 2.1.2.3 Epoxy Grout

Epoxy grout for dowels and anchor bolts to be embedded into the existing concrete and for patching of abandoned holes in existing concrete shall be a two-component, 100% solids, moisture-tolerant, high modulus, high strength, structural epoxy. When mixed, the epoxy shall give a smooth, non-abrasive, paste adhesive. Epoxy resins for use shall conform to ASTM C-881, Type IV, Grade 3, except the epoxy shall produce a minimum bond strength for harden concrete to steel of 2600 psi after a 14 day moist cure. The color of the epoxy shall be concrete gray. The epoxy grout shall be appropriate for the ambient concrete temperature at the time of installation.

#### 2.2 TESTS, INSPECTIONS, AND VERIFICATIONS

The Contractor shall have material tests required by applicable standards and specified performed by an approved laboratory and certified to demonstrate that the materials are in conformance with the specifications. Tests, inspections, and verifications shall be performed and certified at the Contractor's expense.

##### 2.2.1 Reinforcement Steel Tests

Mechanical testing of steel shall be in accordance with ASTM A 370 except as otherwise specified or required by the material specifications.

## Locks 2 & 5 Stoplog Slot Installation

Tension tests shall be performed on full cross-section specimens using a gage length that spans the extremities of specimens with welds or sleeves included. Chemical analyses of steel heats shall show the percentages of carbon, phosphorous, manganese, sulphur and silicon present in the steel.

### 2.2.2 Pull-Out Tests for Dowels

#### 2.2.2.1 Dowels for Cast-in-place Concrete

Five percent of each size of the dowels at each monolith used to anchor the cast-in-place concrete to the existing concrete shall be proof tested to 70 percent of specified minimum yield tensile strength of the dowel in accordance with ASTM E 488. If a dowel fails to achieve the proof load, two additional dowels installed during the same work shift as the failed dowel shall be tested. If one or both of the two additional dowels also fails to achieve the proof load, the Contractor shall develop and submit for approval a plan of corrective action to be taken for the dowels installed during that work shift. If both of the additional dowels pass the proof load test, the Contractor may replace the failed dowel without a corrective action plan. Replacing dowels and additional testing of dowels shall be performed at the Contractor's expense. The replacement dowels shall be installed as close to the failed dowel as possible.

## PART 3 EXECUTION

### 3.1 FABRICATION AND PLACEMENT

Reinforcement steel and accessories shall be fabricated and placed as specified and shown on approved shop drawings. Fabrication and placement details of steel and accessories not specified or shown shall be in accordance with ACI 315 and ACI 318/318R or as directed. Steel shall be fabricated to shapes and dimensions shown, placed where indicated within specified tolerances and adequately supported during concrete placement. At the time of concrete placement all steel shall be free from loose, flaky rust, scale (except tight mill scale), mud, oil, grease or any other coating that might reduce the bond with the concrete.

#### 3.1.1 Hooks and Bends

Steel bars shall be mill or field-bent. All steel shall be bent cold unless authorized. No steel bars shall be bent after being partially embedded in concrete unless indicated or authorized.

#### 3.1.2 Welding

Welding of steel bars will be permitted only where indicated or authorized. Field welding of steel reinforcing bars is prohibited except as indicated on the drawings. Welding shall be performed in accordance with AWS D1.4 except where otherwise specified or indicated.

#### 3.1.3 Placing Tolerances

##### 3.1.3.1 Spacing

The spacing between adjacent bars and the distance between layers of bars may not vary from the indicated position by more than one bar diameter nor more than 1 inch.

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### 3.1.3.2 Concrete Cover

The minimum concrete cover of main reinforcement steel bars shall be as shown on the drawings. The allowable variation for minimum cover shall be as follows:

MINIMUM COVER	VARIATION
6 inch	plus 1/2 inch
4 inch	plus 3/8 inch
3 inch	plus 3/8 inch
2 inch	plus 1/4 inch
1-1/2 inch	plus 1/4 inch
1 inch	plus 1/8 inch
3/4 inch	plus 1/8 inch

### 3.1.4 Splicing

Splices of reinforcement shall conform to ACI 318/318R and shall be made only as required or indicated. Bars may be spliced at alternate or additional locations at no additional cost to the Government subject to approval by the Contracting Officer.

#### 3.1.4.1 Lap Splices

Lap splices shall be used only for bars smaller than size 14. Lapped bars may be placed in contact and securely tied or spaced transversely apart to permit the embedment of the entire surface of each bar in concrete. Lapped bars shall not be spaced farther apart than 1/5 the required length of lap or 6 inches.

#### 3.1.4.2 Mechanical Splices

Mechanical butt splices shall be made in accordance with the recommendations of the manufacturer of the mechanical splicing device. Butt splices shall develop 125 percent of the specified minimum yield tensile strength of the spliced bars or of the smaller bar in transition splices. Adequate jigs and clamps or other devices shall be provided to support, align, and hold the longitudinal centerline of the bars to be butt spliced in a straight line.

### 3.1.5 Embedment in Existing Concrete

The embedment of dowels and anchor bolts shall be as shown on the drawings. The embedment shown is based on the epoxy grout bond strength specified in paragraph EPOXY GROUT of this specification section. The dowels and anchor bolts shall be embedded into sound concrete.

### 3.1.6 Dowel and Grouted Anchor Bolt Installation

Drilling and bonding dowels and anchor bolts with epoxy grout shall conform to the details shown on the drawings and the requirements of these specifications. Holes for dowels and anchor bolts shall be drilled by methods that will not shatter or damage the concrete adjacent to the holes.

The drilled holes shall be clean and dry at the time of placing the epoxy grout material and dowels or anchor bolts. Unless otherwise shown or specified, the installation procedure recommended by the manufacturer shall be followed. The size of the drilled holes shall be as recommended by the epoxy grout manufacturer. After bonding, dowels and anchor bolts shall be

## Locks 2 & 5 Stoplog Slot Installation

supported as necessary to prevent movement during curing and shall remain undisturbed until the epoxy has cured a minimum time as specified by the manufacturer. Dowels shall be placed within plus or minus 1" horizontally and vertically of the location shown on the drawings.

### 3.1.7 Dowel Length

Embedment depth into existing concrete is dependent on method of demolition used; see General Notes on drawing M-L2-20/051 for Lock 2 and drawing M-L5-20/051 for Lock 5. Overall dowel length shall be adjusted as required to account for required embedment depth.

### 3.1.8 Anchor Rod Length

Overall length of anchor rods is dependent on location of demolished surface of concrete, which will not be known until demolition is complete. Length of anchor rods shall be adjusted as required to maintain the required embedment into existing concrete and the required position of the free end of the anchor bolt.

-- End of Section --

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## SECTION 03300

### CAST-IN-PLACE STRUCTURAL CONCRETE

#### PART 1 GENERAL

##### 1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

#### ACI INTERNATIONAL (ACI)

- |           |   |
|-----------|---|
| ACI 211.1 | (1991) Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete |
| ACI 306R  | (1988) Cold Weather Concreting  |

#### AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO)

- |              |   |
|--------------|---|
| AASHTO M 182 | (1991; R 1996) Burlap Cloth Made From Jute or Kenaf |
|--------------|---|

#### AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

- |            |  |
|------------|--|
| ASTM C 31  | (1998) Making and Curing Concrete Test Specimens in the Field          |
| ASTM C 33  | (1999) Concrete Aggregates   |
| ASTM C 39  | (1996) Compressive Strength of Cylindrical Concrete Specimens          |
| ASTM C 42  | (1999) Obtaining and Testing Drilled Cores and Sawed Beams of Concrete |
| ASTM C 94  | (2000) Ready-Mixed Concrete  |
| ASTM C 136 | (2001) Sieve Analysis of Fine and Coarse Aggregates                    |
| ASTM C 150 | (1999a) Portland Cement  |
| ASTM C 171 | (1997a) Sheet Materials for Curing Concrete                            |
| ASTM C 172 | (1999) Sampling Freshly Mixed Concrete                                 |
| ASTM C 231 | (1997) Air Content of Freshly Mixed                                    |

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### Concrete by the Pressure Method

ASTM C 260	(2000) Air-Entraining Admixtures for Concrete
ASTM C 309	(1998a) Liquid Membrane-Forming Compounds for Curing Concrete
ASTM C 494	(1999) Chemical Admixtures for Concrete
ASTM C 566	(1997) Total Evaporable Moisture Content of Aggregate by Drying
ASTM C 597	(1983; R 1997) Pulse Velocity Through Concrete
ASTM C 618	(2000) Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Concrete
ASTM C 803/C 803M	(1997) Penetration Resistance of Hardened Concrete
ASTM C 881	(1999) Epoxy-Resin-Base Bonding Systems for Concrete
ASTM C 989	(1999) Ground Granulated Blast-Furnace Slag for Use in Concrete and Mortars
ASTM C 1064	(1999) Temperature of Freshly Mixed Portland Cement Concrete
ASTM C 1077	(1998) Laboratories Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Laboratory Evaluation
ASTM C 1107	(1999) Packaged Dry, Hydraulic-Cement Grout (Nonshrink)

### CORPS OF ENGINEERS (COE)

COE CRD-C 104	(1980) Method of Calculation of the Fineness Modulus of Aggregate
COE CRD-C 400	(1963) Requirements for Water for Use in Mixing or Curing Concrete
COE CRD-C 540	(1971; R 1981) Standard Specification for Nonbituminous Inserts for Contraction Joints in Portland Cement Concrete Airfield Pavements, Sawable Type
COE CRD-C 572	(1974) Corps of Engineers Specifications for Polyvinylchloride Waterstop

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### NATIONAL READY-MIXED CONCRETE ASSOCIATION (NRMCA)

NRMCA TMMB 100	(1994) Truck Mixer Agitator and Front Discharge Concrete Carrier Standards
NRMCA QC 3	(1984) Quality Control Manual: Section 3, Plant Certifications Checklist: Certification of Ready Mixed Concrete Production Facilities

### 1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

#### SD-01 Preconstruction Submittals

##### Concrete Operation Plan; G,MAT

The plan shall demonstrate a thorough understanding of all involved technical and logistical conditions necessary for the production of concrete that meets all requirements of these specifications. The plan shall provide as a minimum the following:

- a. Sources of cement, pozzolan, aggregates, admixtures, and curing compound.
- b. Location of aggregate stockpiles, batching plant, and mixing plant.
- c. Method and route for conveying batched concrete under all expected weather conditions. Time allowed to maintain flow properties of SCC.
- d. Method of conveying concrete within the project.
- e. Sources of electrical power and water.
- f. Provisions for replacement of required equipment in the event of breakdown.
- g. Methods for preventing aggregate stockpiles from freezing, moisture variation, or contamination.
- h. Methods of placing and curing. Include manufacturer's literature.
- i. Contractor quality control.
- j. Provisions for maintaining a working access or platform for lock personnel engaged in lock operations during placement and curing of concrete repairs.

##### Cold Weather Plan; G,MAT

If concrete is to be placed under cold weather conditions, the procedures, materials, methods, and protection proposed to accomplish it shall be submitted for review.

#### SD-02 Shop Drawings

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### Shop Drawings; G,STR

Shop drawings shall be submitted on a continuing basis during the life of the contract. The drawings shall be shown at not less than 1/4 inch equals 1 foot scale. The drawings shall show accurate concrete outlines and all types of joints. A numbering system shall be established to facilitate ready identification of each lift. The drawing shall cover in detail the design, construction, adjustment, and maintenance of the formwork and shall indicate all major design values of form materials to be used and the loading conditions on the form, including rate of concrete placement. Approval will not relieve the Contractor of responsibility of accuracy of the drawings or for the inclusion of all embedded items or other requirements specified herein.

### SD-03 Product Data

#### Concrete Mixture Design; G,MAT

A mix design shall be submitted for each concrete mix to be used on the project. Each mix design shall list the proportions by weight of cement, weight or volume of water, weights of aggregates in a saturated surface-dry condition, and type, quantity, and name of admixtures per cubic yard of concrete. All materials included in the mixture shall be of the same type and from the same source as will be used on the project. Each mix shall be accompanied by evidence that demonstrates the mix will produce concrete having the characteristics and quality as specified:

Mix Design Study. Submit a mix design study complying with ACI 211.1 conducted in the past 12 months. The mix design shall be completed by a testing laboratory complying with ASTM C 1077. For SCC (Self-Consolidating Concrete) submit evidence of the design mix for this project. The evidence shall include test data from the Slump Flow Test and the Visual Stability Index (VSI) per attachment No.1 at the end of this section. A registered professional engineer knowledgeable and familiar with self-consolidating concrete mixes shall conduct these tests, or have them done under his immediate supervision.

Project data or mix design studies shall be obtained for the exact mix as submitted. Minor mix alterations or substitutions may be accepted if approved by the Contracting Officer. Any alternations or substitutions shall be clearly identified, and shall be accompanied by recommendations from the admixture supplier or a registered professional engineer indicating the expected effects on the concrete.

### SD-07 Certificates

#### Manufacturer's Certificates;

The following materials shall be certified for compliance with all specification requirements:

- a. Cement and pozzolan
- b. Impervious sheet curing materials
- c. Admixtures
- d. Curing compound

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- e. Epoxy Resin and Latex Bonding Compound shall be certified for compliance with all specification requirements.
- f. Descriptive literature of the Nonshrink Grout proposed for use shall be furnished together with a certificate from the manufacturer stating that it is suitable for the application or exposure for which it is being considered.

### Qualifications;

Written documentation for Contractor Quality Control personnel.

### Batch Tickets

Batch tickets shall be collected and furnished to the Contracting Officer for each load of ready-mixed concrete. The batch tickets do not need to be transmitted through the submittal process.

## 1.3 QUALIFICATIONS

Contractor Quality Control personnel assigned to concrete construction shall be American Concrete Institute (ACI) Certified Workmen in grade I or higher or shall have written evidence of having completed similar qualification programs.

## 1.4 CONSTRUCTION TOLERANCES

### 1.4.1 General

The definitions of the terms used in the following tables shall be as defined in ACI 117/117R. Level and grade tolerance measurements of slabs shall be made as soon as possible after finishing. When forms or shoring are used, the measurements shall be made prior to removal. Tolerances are not cumulative. The most restrictive tolerance controls. Tolerances shall not extend the structure beyond legal boundaries. Except as specified otherwise, plus tolerance increases the amount or dimension to which it applies, or raises a level alignment, and minus tolerance decreases the amount or dimension to which it applies, or lowers a level alignment. A tolerance without sign means plus or minus. Where only one sign tolerance is specified, there is no limit in the other direction.

### TOLERANCE FOR FINISHED FORMED CONCRETE SURFACES

#### (1) Vertical alignment

Formed surfaces slope with respect to the specified plane. Vertical alignment of outside corner of exposed corner columns and control joint grooves in concrete exposed to view.

----- 1/4 inch in 10 feet.

All other conditions ----- 3/8 inch in 10 feet.

#### (2) Abrupt Variation

The offset between concrete surfaces for the following classes of surface:

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Class B ----- 1/4 inch.

### (3) Gradual Variation

Surface finish tolerances as measured by placing a freestanding (unleveled), 5-ft straightedge for plane surface or curved template for curved surface anywhere on the surface and allowing it to rest upon two high spots within 72 hr after concrete placement. The gap at any point between the straightedge or template and the surface shall not exceed:

Class B ----- 1/4 inch.

### 1.4.2 Appearance

Finished surfaces shall be protected from stains or abrasions. Permanently exposed surfaces shall be cleaned, if stained or otherwise discolored, by an approved method that does not harm the concrete. Abrupt variations in color, shade, or tint will not be permitted on these surfaces.

## 1.5 GOVERNMENT QUALITY ASSURANCE INSPECTION AND TESTING

The Contracting Officer may appoint a Government representative or an independent testing laboratory to inspect construction and monitor operations of the Contractor's CQC staff as considered appropriate for quality assurance. The Contractor shall provide facilities and labor as may be necessary for procurement of representative test samples. Government inspection or testing will not relieve the Contractor of any of its CQC responsibilities. Failure to detect defective work or material will not prevent rejection later when a defect is discovered nor will it obligate the Government for final acceptance.

## PART 2 PRODUCTS

### 2.1 GENERAL CONCRETE REQUIREMENTS

The concrete shall be a Self-consolidating concrete (SCC), that is able to flow under its own weight and completely fill the form work, even in the presence of dense reinforcement without the need of any vibration while maintaining homogeneity. The concrete shall be composed of a cementitious material, water, fine and coarse aggregates, and admixtures. The admixtures shall include super plasticizers, which are an essential component of SCC to provide the necessary work ability; viscosity modifying agents (VMA) for stability, and air entraining admixtures (AEA) to improve the freeze-thaw resistance. The design compressive strength as determined by ASTM C-39 shall not be less than 3,000 pounds per square inch in 7 days. Water-cement ratio shall not exceed 0.40. The maximum water-cement ratio will be determined by the weight equivalency method as described in ACI 211.1 (cement plus pozzolan, silica fume, and ground granulated blast furnace slag). This W/C ratio may cause higher strengths than required. The cementitious material content shall be a minimum 500 and a maximum 620 pounds per cubic yard. Materials shall meet the requirements of the respective publications and other data specified below.

#### 2.1.1 Strength Requirements

The strength of the concrete will be considered satisfactory so long as the average of all sets of three consecutive test results equals or exceeds the specified compressive strength  $f'_c$  and no individual test result falls

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below the specified strength  $f'c$  by more than 500 psi. A "test" is defined as the average of two companion cylinders, or if only one cylinder is tested, the results of the single cylinder test. Design compressive strength ( $f'c$ ) shall be evaluated for acceptance at 7 days. Additional analysis or testing, including nondestructive testing, and /or taking cores may be required at the Contractor's expense when the strength of the concrete in the structure is considered potentially deficient.

a. Investigation of Low-Strength Test Results. When any strength test of standard cured test cylinders falls below the specified strength requirement by more than 500 psi or if tests of field cured cylinders indicate deficiencies in protection and curing, steps shall be taken to assure that the load carrying capacity of the structure is not jeopardized.

Nondestructive testing in accordance with ASTM C 597 and ASTM C 803/C 803M may be permitted by the Contracting Officer to estimate the relative strengths at various locations in the structure as an aid in evaluating concrete strength in place or for selecting areas to be cored. Such tests shall not be used as a basis for acceptance or rejection.

b. Testing of Cores. When the strength of concrete in place is considered potentially deficient, cores shall be obtained and tested in accordance with ASTM C 42. At least three representative cores shall be taken from each member or area of concrete in place that is considered potentially deficient. The location of cores will be determined by the Contracting Officer to least impair the performance of the structure. Concrete in the area represented by the core testing will be considered adequate if the average strength of the cores is equal to at least 85 percent of the specified strength requirement and if no single core is less than 75 percent of the specified strength requirement.

### 2.1.2 Slump Flow

For SCC (self-consolidating concrete) the slump flow of concrete is identified as the flow of concrete as measured by the Slump Flow Test. The slump flow should be between 26 and 30 inches, with a visual rating of static stability equal to zero or one as determined by the Visual Stability Index (VSI) test.

### 2.1.3 Admixtures

Admixtures to be used on the project shall be included in the mix design submittals. Accelerating admixtures shall be used only when approved in writing.

#### 2.1.3.1 Air Entrainment

All concrete shall be air entrained to contain between 4 and 7 percent total air, except that when the nominal maximum size coarse aggregate is 3/4 inch, it shall be between 4-1/2 and 7-1/2 percent.

#### 2.1.4 Size of Coarse Aggregate

Nominal maximum size coarse aggregate shall be 1-1/2 inches, except 3/4 inch nominal maximum size coarse aggregate shall be used when any of the following conditions exist: the narrowest dimension between sides of forms is less than 7-1/2 inches, the depth of the slab is less than 4-1/2 inches, or the minimum cover or clear spacing between reinforcing is less than 2 inches.

## 2.2 CEMENTITIOUS MATERIALS

Cementitious materials shall be portland cement, or portland cement in combination with pozzolan or ground granulated blast furnace slag. Optional pozzolan replacement of cement shall be limited to 20 percent of the total cementitious material of a mix by weight. Cementitious materials shall conform to appropriate specifications listed below. Use of cementitious materials in concrete which will have surfaces exposed in the completed structure shall be restricted so there is no change in color, source, or type of cementitious material.

### 2.2.1 Portland Cement

ASTM C 150, Type I with a maximum 15 percent amount of tricalcium aluminate, or Type II.

### 2.2.2 Pozzolan (Fly Ash)

ASTM C 618, Class C or F with the optional requirements for multiple factor, drying shrinkage, and uniformity from Table 2A of ASTM C 618. Requirement for maximum alkalies from Table 1A of ASTM C 618 shall apply.

### 2.2.3 Ground Granulated Blast-Furnace (GGBF) Slag

ASTM C 989, Grade 120.

## 2.3 AGGREGATES

### 2.3.1 Composition

Fine aggregate shall consist of natural sand, manufactured sand, or a combination of natural and manufactured sands. Coarse aggregate shall consist of gravel, crushed gravel, crushed stone, or a combination thereof.

### 2.3.2 Quality

The aggregate particles shall be clean, hard, unweathered, and uncoated. The shape of the particles shall be generally cubical or spherical. Where required, fines shall be removed from the aggregates by adequate washing. The aggregates as delivered to the mixer shall meet the quality requirements of ASTM C 33, table 3 for the appropriate type or location of concrete construction for use in a severe climate.

## 2.4 CHEMICAL ADMIXTURES

Chemical admixtures, when required or permitted, shall conform to the appropriate specification listed.

a. Air-Entraining Admixture. ASTM C 260 and shall consistently entrain the air content in the specified ranges under field conditions.

b. Accelerating Admixture. ASTM C 494, Type C or E, except that calcium chloride or admixtures containing calcium chloride shall not be used.

c. Water-Reducing or Retarding Admixture. ASTM C 494, Type A, B, or D.

d. High-Range Water Reducer. ASTM C 494, Type F or G.



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e. Viscosity-Modifying Admixture. The Viscosity-modifying admixture shall be a commercial formulation specially developed for producing concrete with enhanced viscosity controlling properties that when used with a high-range water reducing admixture will produce a self-compacting concrete.

### 2.5 CURING MATERIALS

#### 2.5.1 Impervious-Sheet

Impervious-sheet materials shall conform to ASTM C 171, type optional, except that polyethylene sheet shall be white opaque.

#### 2.5.2 Membrane-Forming Compound

Membrane-Forming curing compound shall conform to ASTM C 309, Type 1-D or 2. Non pigmented compound shall contain a fugitive dye, and shall have the reflective requirements in ASTM C 309 waived.

#### 2.5.3 Burlap and Cotton Mat

Burlap and cotton mat used for curing shall conform to AASHTO M 182.

### 2.6 WATER

Water for mixing and curing shall be fresh, clean, potable, and free of injurious amounts of oil, acid, salt, or alkali, except that non-potable water may be used if it meets the requirements of COE CRD-C 400. Water for curing shall not contain any substance that stains the concrete. River water shall not be used.

### 2.7 NONSHRINK GROUT

Nonshrink grout shall conform to ASTM C 1107, Grade C, except it shall have a minimum compressive strength of 6000 psi in 28 days and shall be a commercial formulation suitable for the application proposed .

### 2.8 EPOXY RESIN

Epoxy resins for use in repairs shall conform to ASTM C 881, Type IV, Grade 3, Class as appropriate for use based on surface temperature of hardened concrete.

### 2.9 JOINT MATERIALS

#### 2.9.1 Contraction Joints in Slabs

Sawable type contraction joint inserts shall conform to COE CRD-C 540. Nonsawable joint inserts shall have sufficient stiffness to permit placement in plastic concrete without undue deviation from a straight line and shall conform to the physical requirements of COE CRD-C 540. Plastic inserts shall be polyvinyl chloride conforming to the materials requirements of COE CRD-C 572.

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### PART 3 EXECUTION

#### 3.1 PREPARATION FOR PLACING

Surfaces to receive concrete shall be clean, damp and free from frost, ice, mud, loose particles, foreign matter, and water. Forms shall be in place, cleaned, coated, and adequately supported. Reinforcing steel shall be in place, cleaned, tied, and adequately supported. Transporting and conveying equipment shall be in-place, ready for use, clean, and free of hardened concrete and foreign material. Equipment for consolidating concrete shall be at the placing site and in proper working order. Equipment and material for curing and for protecting concrete from weather or mechanical damage shall be at the placing site, in proper working condition and in sufficient amount for the entire placement.

##### 3.1.1 Embedded Items

Before placement of concrete, care shall be taken to determine that all embedded items are firmly and securely fastened in place as indicated on the drawings, or required. Conduit and other embedded items shall be clean and free of oil and other foreign matter such as loose coatings or rust, paint, and scale. The embedding of wood in concrete will be permitted only when specifically authorized or directed. Voids in sleeves, inserts, and anchor slots shall be filled temporarily with readily removable materials to prevent the entry of concrete into voids.

#### 3.2 CONCRETE PRODUCTION

Concrete shall be furnished from a ready-mixed concrete plant, . Ready-mixed concrete shall be batched, mixed, and transported in accordance with ASTM C 94. Truck mixers, agitators, and nonagitating transporting units shall comply with NRMCA TMMB 100. Ready-mix plant equipment and facilities shall be certified in accordance with NRMCA QC 3. Aluminum pipes, chutes, troughs, spouts, or tremies shall not be used for pumping, conveying, or placing concrete.

##### 3.2.1 Concrete Mixers

The mixers shall not be charged in excess of the capacity recommended by the manufacturer. Truck mixers, the mixing of concrete therein, and concrete uniformity shall conform to the requirements of ASTM C 94. Each truck shall be equipped with two counters from which it is possible to determine the number of revolutions at mixing speed and the number of revolutions at agitating speed.

#### 3.3 TRANSPORTING CONCRETE TO PROJECT SITE

Concrete shall be transported to the placing site in truck mixers conforming to NRMCA TMMB 100.

#### 3.4 CONVEYING CONCRETE ON SITE

Concrete shall be conveyed from mixer to forms by methods that will prevent segregation or loss of ingredients. Any concrete transferred from one conveying device to another shall be passed through a hopper, which is conical in shape, and shall not be dropped vertically more than 5 feet, except where suitable equipment is provided to prevent segregation and where specifically authorized. Trucks shall be equipped with radios or

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phones to permit communication between the mixing plant and the concrete placement site.

### 3.4.1 Concrete Pumps

The pipeline shall be rigid steel pipe or heavy-duty flexible hose. The inside diameter of the pipe shall be at least three times the nominal maximum size coarse aggregate in the concrete mixture to be pumped, but not less than 5 inches. The maximum size coarse aggregate will not be reduced to accommodate the pumps. The distance to be pumped shall not exceed limits recommended by the pump manufacturer. The concrete shall be supplied to the concrete pump continuously. When pumping is completed, concrete remaining in the pipeline shall be ejected without contamination of concrete in place. After each operation, equipment shall be thoroughly cleaned, and flushing water shall be wasted outside of the forms and in compliance with the approved environment protection plan.

### 3.4.2 Buckets

The interior hopper slope shall be not less than 58 degrees from the horizontal, the minimum dimension of the clear gate opening shall be at least five times the nominal maximum size aggregate, and the area of the gate opening shall not be less than 2 square feet. The maximum dimension of the gate opening shall not be greater than twice the minimum dimension. The bucket gates shall be essentially grout tight when closed and may be manually, pneumatically, or hydraulically operated except that buckets larger than 2 cubic yards shall not be manually operated. The design of the bucket shall provide means for positive regulation of the amount and rate of deposit of concrete in each dumping position.

### 3.4.3 Chutes

When concrete can be placed directly from a truck mixer, agitator, or nonagitating equipment, the chutes attached to this equipment by the manufacturer may be used. A discharge deflector shall be used when required by the Contracting Officer. Separate chutes and other similar equipment will not be permitted for conveying concrete.

## 3.5 PLACING CONCRETE

Mixed concrete shall be discharged within 1-1/2 hours or before the mixer drum has revolved 300 revolutions, whichever comes first after the introduction of the mixing water to the cement and aggregates. When the length of haul makes it impossible to deliver truck-mixed concrete within this time limit, batching of cement and a portion of the mixing water shall be delayed until the truck mixer is at or near the construction site. Concrete shall be placed within 15 minutes after it has been discharged from the transporting unit. Sufficient placing capacity shall be provided so that concrete can be kept free of cold joints.

### 3.5.1 Depositing Concrete

Concrete shall be deposited as close as possible to its final position in the forms, horizontal flow not to exceed 15 feet and there shall be no vertical drop greater than 5 feet except where suitable equipment is provided to prevent segregation and where specifically authorized. Concrete shall be deposited continuously so that fresh concrete is deposited on in-place concrete that is still plastic.

### 3.5.2 Consolidation

Self-Consolidating Concrete does not require vibration. If the slump flow test indicates concrete with a slump flow less than desired, the Contracting Officer may require vibration to consolidate the concrete. This should be done in accordance with ACI 309R.

### 3.5.3 Cold Weather Requirements

Concrete shall not be placed without a procedure approved in accordance with paragraph: SUBMITTALS when the concrete is likely to be subjected to freezing temperatures before the expiration of the curing period. Heating of the mixing water or aggregates will be required to regulate the concrete-placing temperatures. The placing temperature of the concrete shall be as recommended in ACI 306R, Table 3.1, with the temperature of the concrete measured in accordance with ASTM C 1064. Air and form temperature in contact with concrete shall be above 50 degrees F prior to placing concrete and maintained for the first 7 days, and at a temperature above 32 degrees F for the remainder of the specified curing period. Thermometers shall be installed at such locations as may be directed. Suitable thermometers shall be furnished by the Contractor and installed adjacent to the concrete surface and 2 inches inside the surface of the concrete. During the period of protection removal, heat shall be shut down and insulation or tents shall be removed in a systematic schedule such that the temperature differential between the air and concrete surface does not exceed 25 degrees F. Exhaust fumes from combustion heating units shall be vented to the outside of the enclosure, and heaters and ducts shall be placed and directed so as not to cause areas of overheating and drying of concrete surfaces or to create fire hazards. Materials entering the mixer shall be free from ice, snow, or frozen lumps.

## 3.6 JOINTS

All joints not shown on the drawings are subject to approval by the Contracting Officer. Joints shall be perpendicular to the main reinforcement.

### 3.6.1 Construction Joints

Concrete shall be placed continuously so that structural members are monolithic in construction. Construction joints shall be located and constructed as indicated or approved. Where concrete work is interrupted by weather, end of work shift or other similar type of delay, location and type of construction joint shall be subject to approval of the Contracting Officer. Fresh concrete shall not be placed against adjacent hardened concrete until it is at least 24 hours old. Construction joint treatment shall conform to the following requirements.

#### 3.6.1.1 Preparation for construction joints

Concrete surfaces, including existing concrete surfaces after demolition, to which additional concrete is to be bonded, shall be prepared for receiving the next lift or adjacent concrete by cleaning with either air-water cutting, sandblasting, high pressure water jet, or other approved method. Air-water cutting will not be permitted on formed surfaces or surfaces congested with reinforcing steel. Regardless of the method used, the resulting surfaces shall be free from all laitance and inferior concrete so that clean, well-bonded coarse aggregate is exposed uniformly throughout the lift surface. The surface of the concrete shall have a

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minimum of a 0.25-inch amplitude. Mechanical impact means of achieving the 0.25-inch amplitude within two feet of the top elevation of the filling and emptying culvert and below shall not be permitted. Concrete surface preparation, which will not compromise the integrity of the section of the culvert wall shown as remaining, shall be used. The edges of the coarse aggregate shall not be undercut. The surface shall be washed clean again as the last operation prior to placing the next lift. There shall be no standing water on the surface upon which concrete is placed.

a. Air-Water Cutting - Air-water cutting of a construction joint shall be performed at the proper time and only on horizontal construction joints. The air pressure used in the jet shall be 90 to 110 psi, and the water pressure shall be just sufficient to bring the water into effective influence of the air pressure. When approved by the Contracting Officer, a retarder complying with the requirements of COE CRD-C 94 may be applied to the surface of the lift to prolong the period of time during which air-water cutting is effective. Prior to receiving approval, the Contractor shall furnish samples of the material to be used and shall demonstrate the method to be used in applications. After cutting, the surface shall be washed and rinsed as long as there is any trace of cloudiness of the wash water. Where necessary to remove accumulated laitance, coatings, stains, debris, and other foreign material, high-pressure water jet or sandblasting will be required as the last operation before placing the next lift.

b. High-Pressure Water Jet - A stream of water under a pressure of not less than 3,000 psi may be used for cleaning. Its use shall be delayed until the concrete is sufficiently hard so that only the surface skin or mortar is removed and there is no undercutting of coarse aggregate particles. If the water jet is incapable of a satisfactory cleaning, the surface shall be cleaned by sandblasting.

c. Wet Sandblasting - This method may be used when the concrete has reached sufficient strength to prevent undercutting of the coarse aggregate particles. The surface of the concrete shall then be washed thoroughly to remove all loose materials.

### 3.6.2 Preparation for Surface Repairs

Preparation for surface repairs shall follow the requirements for preparation for construction joints, with the following additional criteria: The surface preparation shall include air-water cutting, sandblasting, high-pressure water jet, or other approved method. The surface shall be cleaned as the last operation prior to placing concrete or obstructing the area with reinforcement. The surface shall be watered for 12 hours prior to placing concrete. Horizontal surfaces shall be air blasted to remove puddled water.

### 3.6.3 Waste Disposal

The method used in disposing of wastewater employed in cutting, washing, and rinsing of concrete surfaces shall be such that the wastewater does not stain, discolor, or affect exposed surfaces of the structures, or damage the environment of the project area. The method of disposal shall be subject to approval.

## 3.7 FINISHING FORMED SURFACES

Beginning no more than 24 hours after form removal, all fins and loose

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materials shall be removed. All voids and honeycombs exceeding 1/2 inch in diameter and all tie rod holes shall be reamed or chipped and filled with dry pack mortar. Voids and honeycomb shall be dampened, brush-coated with a neat cement grout or with an approved bonding agent, and filled with mortar. The cement used in mortar for all surfaces permanently exposed to view shall be a blend of portland cement and white cement, so that the final color when cured shall be the same as adjacent concrete. The mortar shall consist of one part cement to two and one-half parts fine aggregate. The quantity of mixing water shall be the minimum necessary to obtain a uniform mixture and to permit placing. Mortar shall be thoroughly compacted in place and struck off to adjacent concrete. Temperature of the concrete, ambient air, replacement concrete, or mortar during remedial work, including curing, shall be above 50 F. The patched areas shall be cured for seven days. Defective areas larger than 36 square inches in any surface shall be replaced or corrected as directed by the Contracting Officer.

### 3.8 FINISHING UNFORMED SURFACES

The finish of all unformed surfaces shall meet the requirements of paragraph Tolerances in PART 1, when tested as specified herein.

#### 3.8.1 General

Unformed surfaces that are not to be covered by additional concrete or backfill shall have a float finish, with additional finishing as specified below, and shall be true to the elevation shown on the drawings. Unless otherwise shown on the drawings, exterior surfaces shall be sloped for drainage, as directed. Joints shall be carefully made with a jointing or edging tool. The dusting of surfaces with dry cement or other materials or the addition of any water during finishing shall not be permitted. If bleed water is present prior to finishing, the excess water shall be carefully dragged off or removed by absorption with porous materials such as burlap. Slabs with surfaces which exhibit significant crazing shall be removed and replaced.

#### 3.8.2 Rough Slab Finish

As a first finishing operation for unformed surfaces the surface shall receive a rough slab finish. The concrete shall be screeded with straightedge strike offs immediately after consolidation to bring the surface to the required finish level with no coarse aggregate visible. Side forms and screed rails shall be provided, rigidly supported, and set to exact line and grade.

#### 3.8.3 Floated Finish

Screeding shall be followed immediately by darbying or bull floating before bleeding water is present, to bring the surface to a true, even plane. After the concrete has stiffened it shall be floated to a true and even plane free of ridges. Floating shall be performed by use of suitable hand floats or power driven equipment.

#### 3.8.4 Broomed Finish

After floating, the surface shall be carefully scored by pulling a coarse fiber push-type broom across the surface. Brooming shall be transverse to traffic or at right angles to the slope of the slab. After the end of the curing period, the surface shall be vigorously broomed with a coarse fiber

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broom to remove all loose or semi-detached particles.

### 3.9 CURING AND PROTECTION

Concrete shall be cured by an approved method for a period of 7 days.

#### 3.9.1 General

Immediately after placement, concrete shall be protected from premature drying, extremes in temperatures, rapid temperature change, mechanical injury and damage from rain and flowing water. Materials and equipment needed for adequate curing and protection shall be available and at the site prior to placing concrete. . Concrete shall be protected from the damaging effects of rain for 12 hours and from flowing water for 7 days. No fire or excessive heat, including welding, shall be permitted near or in direct contact with the concrete at any time.

#### 3.9.2 Moist Curing

Concrete to be moist-cured shall be maintained continuously wet for the entire curing period, commencing immediately after finishing. When wooden forms are left in place during curing, they shall be kept wet at all times.

Surfaces shall be cured by ponding, by continuous sprinkling, by continuously saturated burlap or cotton mats, or by continuously saturated plastic coated burlap. Burlap and mats shall be clean and free from any contamination and shall be completely saturated before being placed on the concrete. The Contractor shall have an approved work system to ensure that moist curing is continuous 24 hours per day. If inspection identifies an area of inadequate curing, immediate corrective action shall be taken, and the required curing period for those areas shall be extended by 1 day.

#### 3.9.3 Membrane Forming Curing Compounds

Clear or translucent membrane-forming compound with fugitive dye shall be used on all surfaces permanently exposed to view, and white pigmented compound may be used on all other surfaces.

Curing compound shall be applied to formed surfaces immediately after the forms are removed and prior to any patching or other surface treatment except the cleaning of loose sand, mortar, and debris from the surface. All surfaces shall be thoroughly moistened with water. Curing compound shall be applied to slab surfaces as soon as the bleeding water has disappeared, with the tops of joints being temporarily sealed to prevent entry of the compound and to prevent moisture loss during the curing period. The curing compound shall be applied in a two-coat continuous operation by approved motorized power-spraying equipment operating at a minimum pressure of 75 psi, at a uniform coverage of not more than 400 square feet per gallon for each coat, and the second coat shall be applied perpendicular to the first coat. Concrete surfaces which have been subjected to rainfall within 3 hours after curing compound has been applied shall be resprayed by the method and at the coverage specified. Surfaces on which clear compound is used shall be shaded from direct rays of the sun for the first 3 days. Surfaces coated with curing compound shall be kept free of foot and vehicular traffic, and from other sources of abrasion and contamination during the curing period.

Appearance is a primary consideration for exterior concrete surfaces exposed to view. The Contractor shall exercise extreme care to apply curing compound evenly on these surfaces. Variations in shade, color, or

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tint, resulting from uneven application of curing compound, shall be repaired by and at the expense of the Contractor as directed.

### 3.9.4 Impervious Sheeting

Surfaces shall be thoroughly wetted and be completely covered with sheeting. Sheeting shall be at least 18 inches wider than the concrete surface to be covered. Covering shall be laid with light-colored side up. Covering shall be lapped not less than 12 inches and securely weighted down or shall be lapped not less than 4 inches and taped to form a continuous cover with completely closed joints. The sheet shall be weighted to prevent displacement so that it remains in contact with the concrete during the specified length of curing. Coverings shall be folded down over exposed edges of slabs and secured by approved means. Sheets shall be immediately repaired or replaced if tears or holes appear during the curing period. If inspection identifies tears, holes, laps or joints that are not completely closed, the tears and holes shall promptly be repaired or the sheets replaced, the joints closed, and the required curing period for those areas shall be extended by 1 day.

### 3.9.5 Ponding or Immersion

Water shall not be more than 20 degrees F less than the temperature of the concrete.

### 3.9.6 Cold Weather Curing and Protection

When the daily outdoor low temperature is less than 32 degrees F, the temperature of the concrete shall be maintained above 50 degrees F for the first 7 days after placing. In addition, during the period of protection removal, the air temperature adjacent to the concrete surfaces shall be controlled so that concrete near the surface will not be subjected to a temperature differential of more than 25 degrees F as determined by observation of ambient and concrete temperatures indicated by suitable temperatures measuring devices furnished by the Government as required and installed adjacent to the concrete surface and 2 inches inside the surface of the concrete. The installation of the thermometers shall be made by the Contractor at such locations as may be directed.

## 3.10 TESTING AND INSPECTION FOR CONTRACTOR QUALITY CONTROL

The Contractor shall perform the inspection and tests described below and, based upon the results of these inspections and tests, shall take the action required and shall submit specified reports. When, in the opinion of the Contracting Officer, the concreting operation is out of control, concrete placement shall cease and the operation shall be corrected. The laboratory performing the tests shall conform with ASTM C 1077. If the Government conducts quality assurance testing, the Contractor shall assist in collection of samples as directed. All necessary platforms, tools, and equipment for obtaining samples shall be furnished by the Contractor.

### 3.10.1 Grading and Corrective Action

#### 3.10.1.1 Fine Aggregate

##### a. Grading.

At least once during each shift when the concrete plant is operating, there shall be one sieve analysis and fineness modulus determination in



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accordance with ASTM C 136 and COE CRD-C 104 for the fine aggregate or for each size range of fine aggregate if it is batched in more than one size or classification. The location at which samples are taken may be selected by the Contractor as the most advantageous for control. However, the Contractor is responsible for delivering fine aggregate to the mixer within specification limits.

### b. Corrective Action for Fine Aggregate Grading.

When the amount passing on any sieve is outside the specification limits, the fine aggregate shall be immediately resampled and retested. If there is another failure on any sieve, the fact shall immediately be reported to the Contracting Officer.

### c. Moisture Content Testing.

When in the opinion of the Contracting Officer the electric moisture meter is not operating satisfactorily, there shall be at least four tests for moisture content in accordance with ASTM C 566 during each 8-hour period of mixing plant operation. The times for the tests shall be selected randomly within the 8-hour period. An additional test shall be made whenever the slump is shown to be out of control or excessive variation in workability is reported by the placing foreman. When the electric moisture meter is operating satisfactorily, at least two direct measurements of moisture content shall be made per week to check the calibration of the meter. The results of tests for moisture content shall be used to adjust the added water in the control of the batch plant.

### d. Moisture Content Corrective Action.

Whenever the moisture content of the fine aggregate changes by 0.5 percent or more, the scale settings for the fine aggregate batcher and water batcher shall be adjusted (directly or by means of a moisture compensation device) if necessary to maintain the specified slump.

## 3.10.1.2 Coarse Aggregate

### a. Grading.

At least once during each shift in which the concrete plant is operating, there shall be a sieve analysis in accordance with ASTM C 136 for each size of coarse aggregate. The location at which samples are taken may be selected by the Contractor as the most advantageous for production control. However, the Contractor shall be responsible for delivering the aggregate to the mixer within specification limits. A test record of samples of aggregate taken at the same locations shall show the results of the current test as well as the average results of the five most recent tests including the current test. The Contractor may adopt limits for control which are coarser than the specification limits for samples taken at locations other than as delivered to the mixer to allow for degradation during handling.

### b. Corrective Action for Grading.

When the amount passing any sieve is outside the specification limits, the coarse aggregate shall be immediately resampled and retested. If the second sample fails on any sieve, that fact shall be reported to the Contracting Officer. Where two consecutive averages of five tests are outside specification limits, the operation shall be considered out of

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control and shall be reported to the Contracting Officer. Concreting shall be stopped and immediate steps shall be taken to correct the grading.

### c. Coarse Aggregate Moisture Content.

A test for moisture content of each size group of coarse aggregate shall be made at least twice per week. When two consecutive readings for smallest size coarse aggregate differ by more than 1.0 percent, frequency of testing shall be increased to that specified above for fine aggregate, until the difference falls below 1.0 percent.

### d. Coarse Aggregate Moisture Corrective Action.

Whenever the moisture content of any size of coarse aggregate changes by 0.5 percent or more, the scale setting for the coarse aggregate batcher and the water batcher shall be adjusted if necessary to maintain the specified slump.

## 3.10.1.3 Scales

### a. Weighing Accuracy.

The accuracy of the scales shall be checked by test weights prior to start of concrete operations and at least once every 6 months for conformance with the applicable requirements of paragraph BATCHING EQUIPMENT. Such tests shall also be made as directed whenever there are variations in properties of the fresh concrete that could result from batching errors.

### b. Batching and Recording Accuracy.

Once a week the accuracy of each batching and recording device shall be checked during a weighing operation by noting and recording the required weight, recorded weight, and the actual weight batched. The Contractor shall confirm that the calibration devices described in paragraph BATCH PLANT for checking the accuracy of dispensed admixtures are operating properly.

### c. Scales Corrective Action.

When either the weighing accuracy or batching accuracy does not comply with specification requirements, the plant shall not be operated until necessary adjustments or repairs have been made. Discrepancies in recording accuracies shall be corrected immediately.

## 3.10.2 Concrete Mixture

Each load of Self-Consolidating Concrete(SCC) shall be tested for Slump Flow, VSI, T50cm test methods. Air Content and Temperature testing will be done each time Compressive strength specimens are fabricated. Concrete shall be sampled in accordance with ASTM C 172.

### a. Air Content Testing.

Air content tests shall be measured when compressive strength specimens are fabricated. In addition, tests shall be made when excessive variation in workability is reported by the placing foreman or Government quality assurance representative. Concrete for specified air content shall be obtained from the discharge of the readi-mix truck. Measurement shall be in accordance with ASTM C 231. As soon as is practical after each adjustment, another test shall be made to verify

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the result of the adjustment. The air content shall be reported along with the compressive strength data.

### b. Slump Flow Testing, VSI and T50.

The concrete slump flow with VSI and T50 shall be measured for each load of SCC in accordance with the test procedures in Attachment No.1 at the end of this section. Results of the slump flow test, VSI and T50 shall be reported immediately to the Contracting Officer.

### c. Temperature.

The temperature of the concrete shall be measured when compressive strength specimens are fabricated. Measurement shall be in accordance with ASTM C 1064. The temperature shall be reported along with the compressive strength data.

### d. Strength Specimens.

Test cylinders shall be cast for compressive strength tests for each mix design at the following rates:

- a. A minimum of four 4-in. by 8-in. cylinders shall be made from each load of concrete placed, but not more than eight cylinders per day are required. Two additional cylinders may be prepared for use in determining when the form work may be removed.

A set of test specimens shall consist of four cylinders, one to be tested at 3 days and two at 7 days. If either of the 7 day breaks does not meet the specified strength, the fourth cylinder shall be tested at 14 days, otherwise it shall be discarded. Test specimens shall be molded and cured in accordance with ASTM C 31 and tested in accordance with ASTM C 39. Results of all strength tests shall be reported immediately to the Contracting Officer.

## 3.10.3 Inspection Before Placing

Foundations, construction joints, forms, and embedded items shall be inspected by the Contractor in sufficient time prior to each concrete placement in order to certify to the Contracting Officer that they are ready to receive concrete. Full cooperation shall be given other trades to install embedded items. Suitable templates or instructions shall be used for setting items not placed in the forms.

## 3.10.4 Curing

### a. Moist-Curing Inspections.

At least once each shift, and once per day on nonwork days an inspection shall be made of all areas subject to moist curing. The surface moisture condition shall be noted and recorded.

### b. Moist-Curing Corrective Action.

When a daily inspection report lists an area of inadequate curing, immediate corrective action shall be taken, and the required curing period for such areas shall be extended by one (1) day.

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### c. Membrane-Curing Inspection.

No curing compound shall be applied until the Contractor's authorized representative has verified that the compound is properly mixed and ready for spraying. At the end of each operation, he shall estimate the quantity of compound used by measurement of the container and the area of concrete surface covered and compute the rate of coverage in square meters per liter (square feet per gallon). He shall note whether or not coverage is uniform.

### d. Membrane-Curing Corrective Action.

When the coverage rate of the curing compound is less than that specified or when the coverage is not uniform, the entire surface shall be sprayed again.

### e. Sheet-Curing Inspection.

At least once each shift and once per day on nonwork days, an inspection shall be made of all areas being cured using material sheets. The condition of the covering and the tightness of the laps and tapes shall be noted and recorded.

### f. Sheet-Curing Corrective Action.

When a daily inspection report lists any tears, holes, or laps or joints that are not completely closed, the tears and holes shall promptly be repaired or the sheets replaced, the joints closed, and the required curing period for those areas shall be extended by one (1) day.

Text

## 3.10.5 Cold-Weather Protection

At least once each shift and once per day on nonwork days, an inspection shall be made of all areas subject to cold weather protection. The protection system shall be inspected for holes, tears, unsealed joints, or other deficiencies that could result in damage to the concrete. Special attention shall be taken at edges, corners, and thin sections. Any deficiencies shall be noted, corrected, and reported. When a daily inspection report lists any holes, tears, unsealed joints, or other deficiencies, the deficiency shall be corrected immediately and the period of protection extended 1 day.

## 3.10.6 Reports

The results of all tests and inspections conducted at the project site, as well as corrective actions taken, shall be reported in writing weekly and shall be delivered to the quality assurance representative within three days after the end of each weekly reporting period. The Contracting Officer has the right to examine all Contractor quality control records.

-- End of Section --

# **Attachment No 1: Instructions for Slump Flow Test, VSI and T<sub>50cm</sub>**

## **1. Scope**

The slump flow test is used to determine filling ability and can indicate segregation resistance of self-compacting concrete to an experienced user.

## **2. References**

ASTM C 143	Slump of Hydraulic Cement Concrete
ASTM C 172	Sampling Freshly Mixed Concrete

## **3. Principle**

The fresh concrete is poured into a mold in the shape of a frustum of a cone. When the cone is withdrawn upwards, the distance the concrete has spread provides a measure of the consistency of the concrete.

## **4. Apparatus**

- 4.1. Mold to form the test specimen shall be as required per ASTM C 143, (Typical 12 in. slump cone)
- 4.2. Base plate/surface, non-absorbent, rigid, flat plate or other surface, with a concentric diameter of 50 cm marked on it, on which to place the mold.
- 4.3. Moist cloth
- 4.4. Scoop, approximately 4 inches in width.
- 4.5. Rule, or measuring tape, graduated and at least 1 meter long.
- 4.6. Timer capable of measuring to 1 second.

## **5. Test sample**

The sample of the concrete shall be obtained in accordance with ASTM C 172.

## **6. Procedure**

- 6.1 Make sure that the base plate is horizontal, has a smooth surface and that a concentric circle with a diameter of 50 cm is marked on the plate. The material of the surface of the base plate can have some influence and the same type should be used both at the concrete plant and on the site.
- 6.2 Clean the surface and the cone with water and dry them with a cloth so they are moist but without free water.
- 6.3 Place the slump cone centrally on the plate.
- 6.4 Fill the slump cone with concrete while pressing the slump cone to the plate.
- 6.5 Distinctly lift the slump cone vertically. Start timing when lifting of the slump cone starts.

## **7. Test results**

- 7.1 Record the time for the concrete diameter to reach 50 cm (T<sub>50</sub>).
- 7.2 When the concrete has stopped flowing, measure the final diameter (D-final) of the concrete by measuring two perpendicular diameters and the segregation border at the concrete periphery, see Fig 1. Note whether coarse aggregates have been transported to the periphery. If you see a segregation border it can indicate segregation.
- 7.3 Examine the slump flow and give it a visual rating of static stability (VSI) based on the following observed characteristics of the spread:

## Attachment No 1: Instructions for Slump Flow Test, VSI and T<sub>50cm</sub>

**0 = Highly Stable** - No evidence of segregation in slump flow spread or in mixer drum or wheelbarrow. See figure 2.

**1 = Stable** - No mortar halo or aggregate pile in the slump flow spread, but some slight bleed or air popping on the surface of the concrete in the mixer drum, or wheelbarrow is permitted. See figure 3.

**2 = Unstable** – A slight mortar halo (<10mm) and/or aggregate pile in the slump flow spread and/or highly noticeable bleeding in the mixer drum and wheelbarrow. See figure 4.

**3 = Unstable** - Clearly segregating by evidence of a large mortar halo (> 10 mm) and/or a large aggregate pile into the center of the concrete spread and a thick layer of paste on the surface of the resting concrete in the mixer drum or wheelbarrow. See figure 5.

### 8. Test report

The test report to include:

- 8.1. Identification of the test sample
- 8.2. Location of performance of test
- 8.3. Date of performance of test
- 8.4. Measured T<sub>50</sub>
- 8.5. Measured slump flow value
- 8.6. Notation whether a segregation boarder is observed
- 8.7. VSI rating
- 8.8. Any deviation from this procedure
- 8.9. A declaration from the person technically responsible for the test that the testing was carried out in accordance with this procedure, except as noted in item 8.8.

### 9. Precision

Normal criteria for the test are:

- 9.1. T<sub>50</sub> shall be >3 < 7 s.
- 9.2. Slump flow shall be > 60 cm < 70 cm.

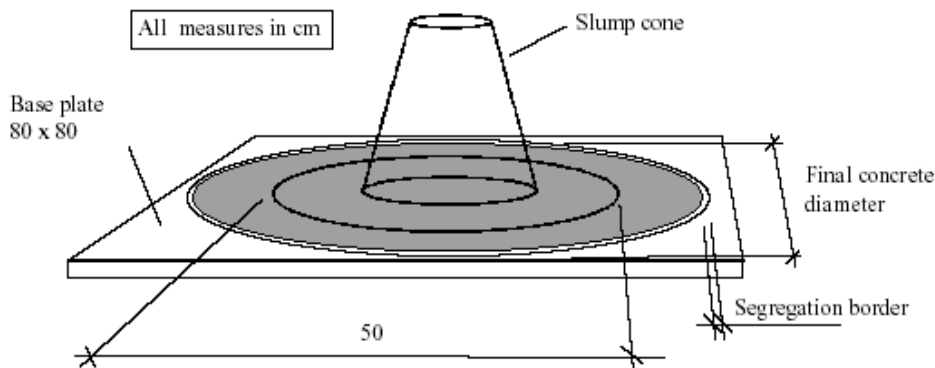


Fig 1. The slump flow test.



Figure No.2 (VSI = 0)

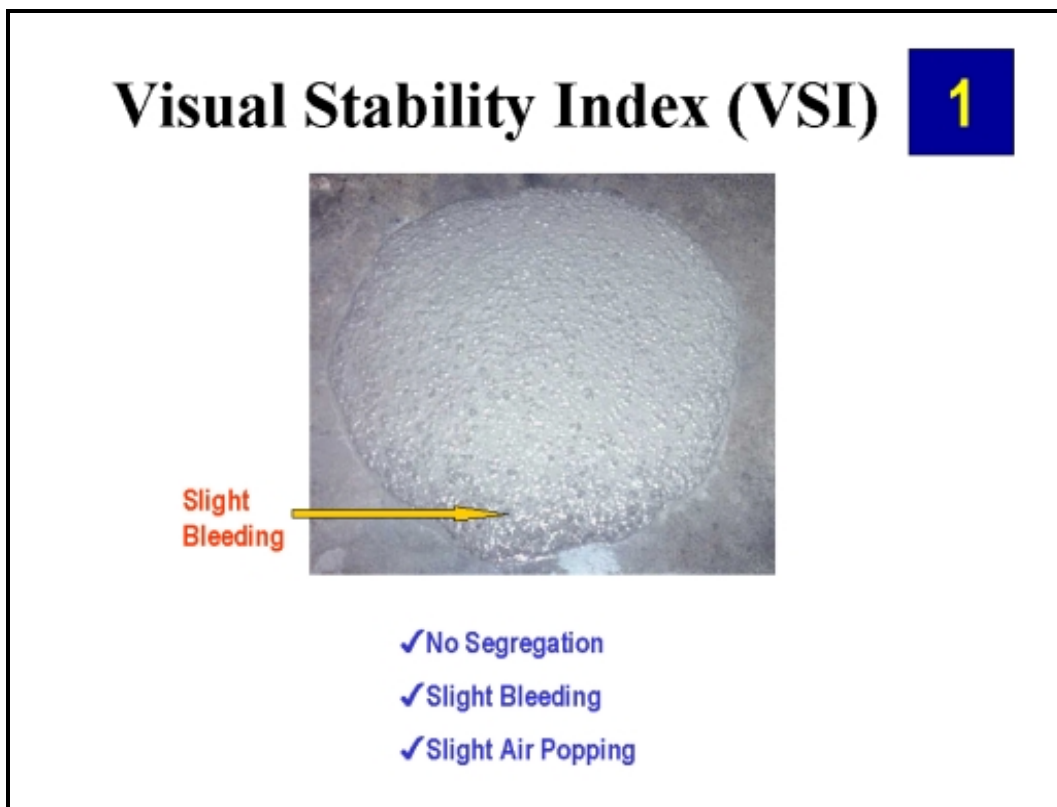


Figure No.3. (VSI = 1)

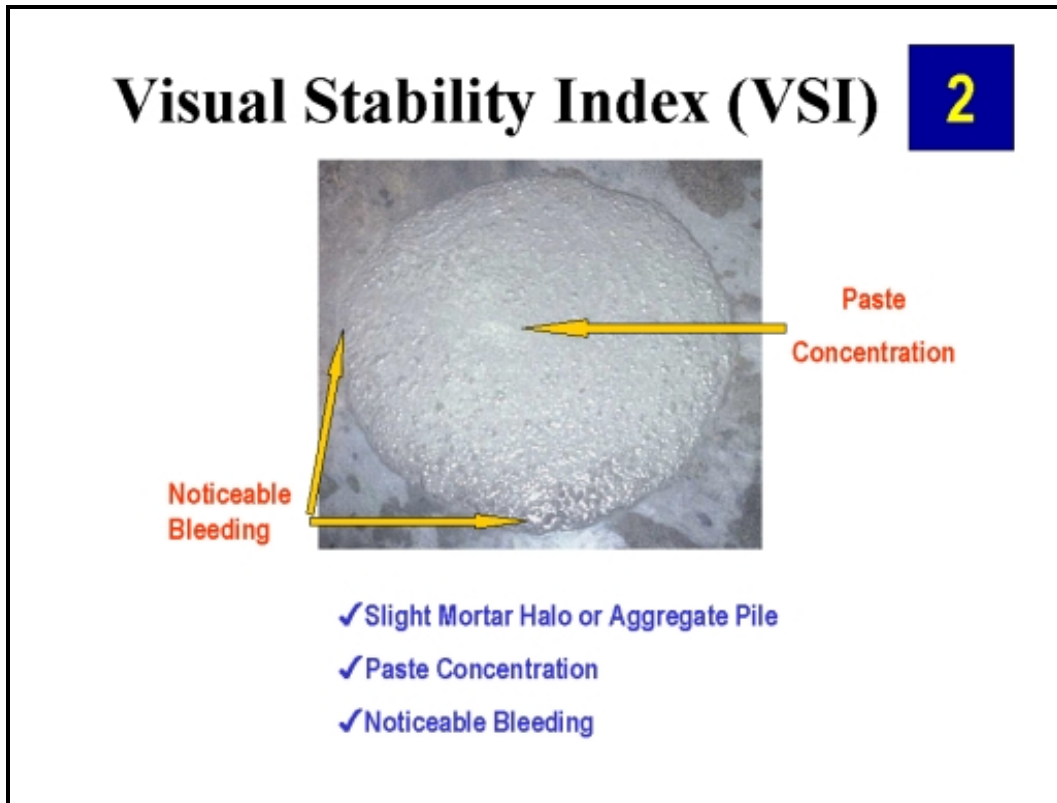


Figure No. 4 (VSI = 2)

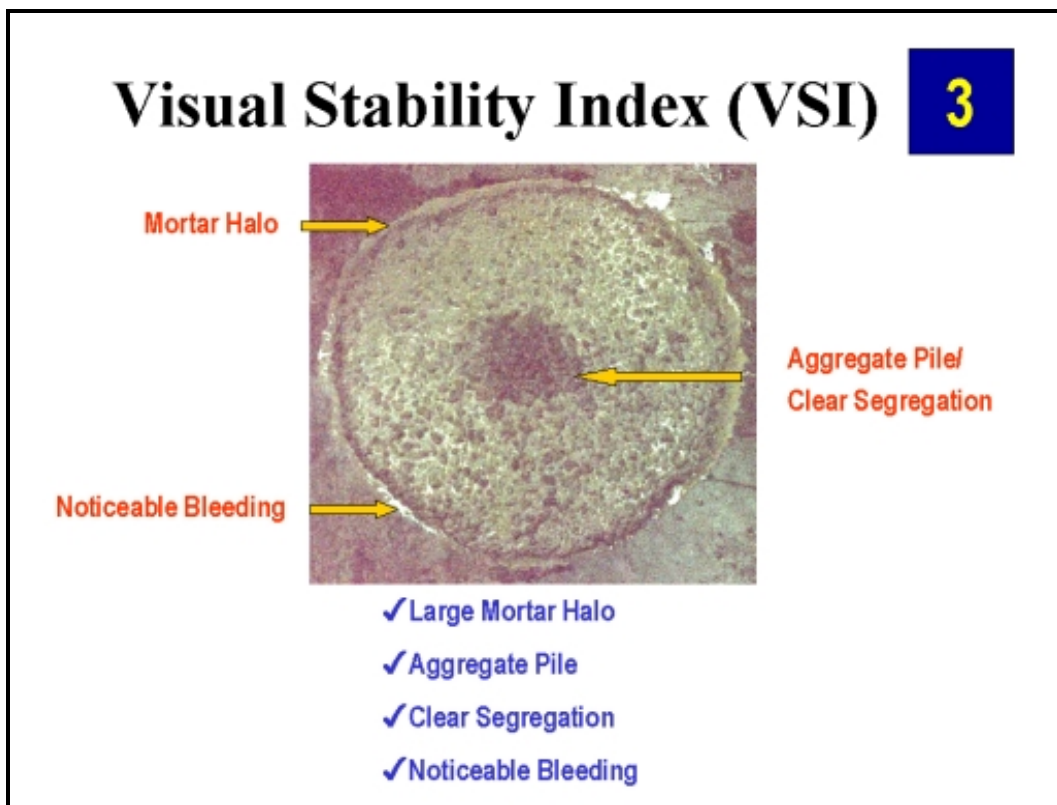


Figure No. 5 (VSI = 3)



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## SECTION 05055

### METALWORK FABRICATION, AND MISCELLANEOUS PROVISIONS

#### PART 1 GENERAL

##### 1.1 SCOPE

This section specifies general workmanship requirements applicable to the fabrication, assembly and testing of various items of metalwork and machine work to ensure conformance with the specifications. These requirements are in addition to those contained in the specification sections covering the specific items of work or indicated on the drawings.

##### 1.2 QUALITY CONTROL

###### 1.2.1 General

The Contractor shall establish and maintain quality control for all operations to assure compliance with contract requirements and maintain records of its quality control for all construction operations including but not limited to the following:

- (1) Fabrication
- (2) Welding
- (3) Installation.

###### 1.2.2 Reporting

A copy of these records and tests, as well as corrective action taken, shall be furnished to the Government daily.

##### 1.3 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

#### AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM A 123	(1989a) Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
ASTM A 275	Standard Test Method for Magnetic Particle Examination of Steel Forgings
ASTM A 325	(1994) Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength
ASTM A 668	Standard Specification for Steel Forgings, Carbon and Alloy, for General Industrial

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### Use

ASTM A 780	(1993a) Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings
ASTM A 788	Standard Specification for Steel Forgings, General Requirements E(2002)
ASTM E 165	(1995) Liquid Penetrant Examination Inspection Method
ASTM E 709	(1995) Magnetic Particle Examination

### ASME INTERNATIONAL (ASME)

ASME B4.1	(1967; R 1994) Preferred Limits and Fits for Cylindrical Parts
ASME B46.1	(1985) Surface Texture (Surface Roughness, Waviness, and Lay)
ASME BPVC IX	(1995) Boiler and Pressure Vessel Code; Section IX, Welding and Brazing Qualifications

### AMERICAN WELDING SOCIETY (AWS)

AWS D1.1	(1994) Structural Welding Code - Steel
AWS D1.2	(1990) Structural Welding Code - Aluminum

## 1.4 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

### SD-01 Preconstruction Submittals

#### Welding of Structural Steel; G, STR

Schedules of welding procedures for steel structures shall be submitted and approved prior to commencing fabrication.

#### Welding of Steel in Tension Zones; G, STR

Contractor shall submit for approval any field welding procedures for steel in tension zones.

#### Welding of Aluminum; G, STR

Schedules of welding procedures for aluminum structures shall be submitted and approved prior to commencing fabrication.

#### Structural Steel Welding Repairs; G, STR

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Welding repair plans for steel shall be submitted and approved prior to making repairs.

Aluminum Welding Repairs; G, STR

Welding repair plans for aluminum shall be submitted and approved prior to making repairs.

### SD-02 Shop Drawings

Detail Drawings; G, STR

Detail drawings for metalwork, machine work and completed fabricated items shall be submitted and approved prior to fabrication. Drawings shall include catalog cuts, templates, fabrication and assembly details and type, grade and class of materials as appropriate. Elements of fabricated items inadvertently omitted on contract drawings shall be detailed by the fabricator and indicated on the shop drawings. Shop drawings shall indicate surface preparation and shop painting requirements.

### SD-03 Product Data

Materials Orders; G, STR

Copies of purchase orders, mill orders, shop orders and work orders for materials shall be submitted prior to the use of the materials in the work.

Materials List; G, STR

The Contractor shall furnish 2 (two) copies of all purchase and mill orders, shop orders and work orders. The Contractor shall furnish a list designating the material to be used for each item at the time of submittal of shop drawings. Where mill tests are required, purchase orders shall contain the test site address and the name of the testing agency. The Contractor shall also furnish a shipping bill or memorandum of each shipment of finished pieces or members to the project site giving the designation mark and weight of each piece, the number of pieces and the total weight. Copies of certified shipping bills shall be mailed promptly to the Contracting Officer.

Shipping Bill; G, STR

Shipping bill shall be submitted with the delivery of finished pieces to the site.

### SD-06 Test Reports

Materials Tests, Welding Procedures and Qualifications; Weld Examinations and Testing; G, STR

Certified test reports for material tests and analyses, examinations including visual examination and nondestructive testing of welds, welding procedures and welding operator qualifications shall be submitted in triplicate. Test reports for material tests and analyses shall be identified with specific lots

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and items prior to installation.

### SD-07 Certificates

Qualification of Welders and Welding Operators; G, STR

Certifications for welders and welding operators shall be submitted prior to commencing fabrication.

Welding of Aluminum; G, STR

Certified report for aluminum welding qualification tests shall be submitted and approved prior to commencing welding.

### SD-11 Closeout Submittals

Materials Disposition; G, STR

A system of identification that shows the disposition of specific lots of approved materials and fabricated items in the work shall be established and submitted before completion of the contract.

## 1.5 DETAIL DRAWINGS

Detail drawings for metalwork and machine work shall include catalog cuts, templates, fabrication and assembly details and type, grade and class of material as appropriate. Elements of fabricated items inadvertently omitted on contract drawings shall be detailed by the fabricator and indicated on the detail drawings.

## 1.6 QUALIFICATION OF WELDERS AND WELDING OPERATORS

The Contractor shall certify the qualification of welders and welding operators and tack welders according to the codes specified below for the corresponding type of welding. The certificate shall list the qualified welders by name and shall specify the code and procedures under which qualified and the date of qualification. Prior qualification will be accepted if welders have performed satisfactory work under the code for which qualified within the preceding three months. The Contractor shall require welders to repeat the qualifying tests when their work indicates a reasonable doubt as to proficiency. Those passing the requalification tests will be recertified. Those not passing will be disqualified until passing. All expenses in connection with qualification and requalification shall be borne by the Contractor.

### 1.6.1 Structural Steel

The Contractor shall certify that the qualification of welders and welding operators and tack welders who will perform structural steel welding have been qualified for the particular type of work to be done in accordance with the requirements of AWS D1.1, Section 4 or ASME BPVC IX, Section IX, prior to commencing fabrication.

### 1.6.2 Aluminum

The Contractor shall certify that the qualification of welders and welding operators and tack welders who will perform structural steel welding have been qualified for the particular type of work to be done in accordance with the requirements of AWS D1.2, Section 4.

## PART 2 PRODUCTS

### 2.1 MATERIALS

#### 2.1.1 Materials Orders

The Contractor shall furnish 2 copies of purchase orders, mill orders, shop orders and work orders for all materials orders and items used in the work.

Where mill tests are required purchase orders shall contain the test site address and the name of the testing agency.

#### 2.1.2 Materials List

The Contractor shall furnish a materials list of the materials to be used in the fabrication of each item.

#### 2.1.3 Shipping Bill

The Contractor shall furnish a shipping bill or memorandum of each shipment of finished pieces or members to the project site giving the designation mark and weight of each item, the number of items, the total weight, and the car initial and number if shipped by rail in carload lots. Duplicate copies of shipping bills shall be mailed promptly to the Contracting Officer.

### 2.2 FABRICATION

#### 2.2.1 Structural Fabrication

Material must be straight before being laid off or worked. If straightening is necessary it shall be done by methods that will not impair the metal. Sharp kinks or bends shall be cause for rejection of the material. Material with welds will not be accepted except where welding is definitely specified, indicated on the drawings or otherwise approved. Bends shall be made by approved dies, press brakes or bending rolls. Where heating is required, precautions shall be taken to avoid overheating the metal and it shall be allowed to cool in a manner that will not impair the original properties of the metal. Proposed flame cutting of material other than structural steel shall be subject to approval and shall be indicated on shop drawings. Shearing shall be accurate and all portions of the work shall be neatly finished. Corners shall be square and true unless otherwise shown on the drawings. Re-entrant cuts shall be filleted to a minimum radius of 3/4-inch unless otherwise approved. Finished members shall be free of twists, bends and open joints. Bolts, nuts and screws shall be tight.

##### 2.2.1.1 Dimensional Tolerances for Structural Work

Dimensions shall be measured by an approved calibrated steel tape of approximately the same temperature as the material being measured at the time of measurement. The overall dimensions of an assembled structural unit shall be within 1/32-inch in the overall length of component members with both ends milled. Component members without milled ends shall not deviate from the dimensions shown on the drawings by more than 1/16-inch for members 30 feet or less in length and by not more than 1/8-inch for members over 30 feet in length.

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### 2.2.1.2 Structural Steel Fabrication

Structural steel may be cut by mechanically guided or hand guided torches provided an accurate profile with a surface that is smooth and free from cracks and notches is obtained. Surfaces and edges to be welded shall be prepared in accordance with AWS D1.1, Subsection 3.2. Where structural steel is not to be welded, chipping or grinding will not be required except as necessary to remove slag and sharp edges of mechanically guided or hand guided cuts not exposed to view. Hand guided cuts which are to be exposed or visible shall be chipped, ground or machined to sound metal.

### 2.2.1.3 Structural Aluminum Fabrication

Laying out and cutting of aluminum shall be in accordance with Aluminum Design Manual, Part I-A, Specifications for Aluminum Structures Allowable Stress Design, Section 6.

### 2.2.2 Welding

#### 2.2.2.1 Welding of Structural Steel

a. Welding Procedures for Structural Steel - Welding procedures for structural steel shall be prequalified as described in AWS D1.1, Subsection 5.1 or shall be qualified by tests as prescribed in AWS D1.1, Section 5. Properly documented evidence of compliance with all requirements of these specifications for previous qualification tests shall establish a welding procedure as prequalified. For welding procedures qualified by tests, the test welding and specimen testing must be witnessed and the test report document signed by the Contracting Officer. Approval of any welding procedure will not relieve the Contractor or the responsibility for producing a finished structure meeting all requirements of these specifications. The Contractor will be directed or authorized to make any changes in previously approved welding procedures that are deemed necessary or desirable by the Contracting Officer. The Contractor shall submit a complete schedule of welding procedures for each steel structure to be welded. The schedule shall conform to the requirements specified in the provisions of AWS D1.1, Sections 2, 3, 4, 7 and 9 and applicable provisions of Section 10. The schedule shall provide detailed procedure specifications and tables or diagrams showing the procedures to be used for each required joint. Welding procedures must include filler metal, preheat, interpass temperature and stress-relief heat treatment requirements. Each welding procedure shall be clearly identified as being prequalified or required to be qualified by tests. Welding procedures must show types and locations of welds designated or in the specifications to receive nondestructive examination.

b. Welding Process - Welding of structural steel shall be by an electric arc welding process using a method which excludes the atmosphere from the molten metal and shall conform to the applicable provisions of AWS D1.1, Sections 1 thru 7, 9, 10 and 11. Welding shall be such as to minimize residual stresses, distortion and shrinkage.

c. Welding Technique

(1) Filler Metal - The electrode, electrode-flux combination and grade of weld metal shall conform to the appropriate AWS specification for the base metal and welding process being used or shall be as shown on the drawings where a specific choice of AWS



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specification allowables is required. The AWS designation of the electrodes to be used shall be included in the schedule of welding procedures. Only low hydrogen electrodes shall be used for manual shielded metal-arc welding regardless of the thickness of the steel. A controlled temperature storage oven shall be used at the job site as prescribed by AWS D1.1, Subsection 4.5 to maintain low moisture of low hydrogen electrodes.

(2) Preheat and Interpass Temperature - Preheating shall be performed in accordance with AWS D1.1, Subsection 4.2 and 4.3 or as otherwise specified except that the temperature of the base metal shall be at least 70 degrees F. The weldments to be preheated shall be slowly and uniformly heated by approved means to the prescribed temperature, held at that temperature until the welding is completed and then permitted to cool slowly in still air.

(3) Stress-Relief Heat Treatment - Where stress relief heat treatment is specified or shown on the drawings it shall be in accordance with the requirements of AWS D1.1, Subsection 4.4 unless otherwise authorized or directed by the Contracting Officer.

d. Workmanship - Workmanship for welding shall be in accordance with AWS D1.1, Section 3 and other applicable requirements of these specifications.

(1) Preparation of Base Metal - Prior to welding the Contractor shall inspect surfaces to be welded to assure compliance with AWS D1.1, Subsection 3.2.

(2) Temporary Welds - Temporary welds required for fabrication and erection shall be made under the controlled conditions prescribed for permanent work. Temporary welds shall be made using low-hydrogen welding electrodes and by welders qualified for permanent work as specified in these specifications. Preheating for temporary welds shall be as required by AWS D1.1 for permanent welds except that the minimum temperature shall be 120 degrees F in any case. In making temporary welds arcs shall not be struck in other than weld locations. Each temporary weld shall be removed and ground flush with adjacent surfaces after serving its purpose.

(3) Tack Welds - Tacks welds that are to be incorporated into the permanent work shall be subject to the same quality requirements as the permanent welds and shall be cleaned and thoroughly fused with permanent welds. Preheating shall be performed as specified above for temporary welds. Multiple-pass tack welds shall have cascaded ends. Defective tack welds shall be removed before permanent welding.

e. Welding in tension members - Any field welding in tension members requires approval from the Contracting Officer's Representative. All welding, weld testing, weld repairs, welder qualifications, and weld testing personnel qualifications shall comply with all requirements of AWS D1.5.

### 2.2.2.2 Welding of Steel Studs

The procedures for welding steel studs to structural steel, including mechanical, workmanship, technique, stud application qualification,

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production quality control and fabrication and verification inspection procedures shall conform to the requirements of AWS D1.1, Section 7 except as otherwise specified.

a. Stud Materials - The type, size and length of studs shall be as indicated on the drawings. The Contractor shall furnish for approval the manufacturer's certified test reports and certification that the studs conform to the requirements of AWS D1.1, Subsections 7.2 and 7.3.

b. Application Qualification for Steel Studs - As a condition of approval of the stud application process the Contractor shall furnish certified results of the manufacturer's stud base qualification tests and/or certified results of the stud application qualification test as required by AWS D1.1, Subsection 7.6 except as otherwise specified.

c. Production Quality Control - Quality control for production welding shall conform to the requirements of AWS D1.1, Subsection 7.7 except as otherwise specified. Studs on which pre-production testing is to be performed shall be welded in the same general position as required on production items (flat, vertical, overhead or sloping). Test and production stud welding will be subjected to visual examination or inspection by the Contracting Officer. If the reduction of the length of studs becomes less than normal as they are welded, welding shall be stopped immediately and not resumed until the cause has been corrected.

### 2.2.2.3 Welding of Aluminum

Welding of aluminum shall conform to Aluminum Design Manual, Part I-A, Specifications for Aluminum Structures Allowable Stress Design and AWS D1.2, Sections 1 through 7, 9 and 10. The welding process and welding operators shall be prequalified as required by AWS D1.2, Section 4 in accordance with the methods described in ASME BPVC, Section IX. A certified report giving the results of the qualifying tests shall be furnished for approval. A complete schedule of the welding process for each aluminum fabrication to be welded shall be furnished for approval.

### 2.2.3 Bolted Connections

#### 2.2.3.1 Bolted Structural Steel Connections

Bolts, nuts and washers shall be of the type specified or indicated on the drawings. All nuts shall be equipped with washers except as indicated on the drawings. Beveled washers shall be used where bearing faces have a slope of more than 1:20 with respect to a plane normal to the bolt axis. All bolts for permanent installation shall be tightened to a snug tight condition where all plies are in firm contact unless otherwise indicated. Care shall be taken not to overtighten bolts causing damage to the bolting materials or deformation in the ply materials. Where the use of high strength bolts is specified or indicated the materials, workmanship and installation shall conform to the applicable provisions of ASTM A 325.

a. Bolt Holes - Bolt holes shall be accurately located, smooth, perpendicular to the member and cylindrical. Holes shall be drilled or subdrilled and reamed in the shop and shall not be more than 1/16-inch larger than the diameter of the bolt, unless otherwise shown on the drawings.

### 2.2.4 Machine Work

Tolerances, allowances and gauges for metal fits between plain, non-threaded, cylindrical parts shall conform to ASME B4.1 for the class of fit shown or required unless otherwise shown on approved detail drawings. Where fits are not shown they shall be suitable as approved. Tolerances for machine-finished surfaces designated by non-decimal dimensions shall be within 1/64 inch. Sufficient machining stock shall be allowed on placing pads to ensure true surfaces of solid material. Finished contact or bearing surfaces shall be true and exact to secure full contact. Journal surfaces shall be polished and all surfaces shall be finished with sufficient smoothness and accuracy to ensure proper operation when assembled. Parts entering any machine shall be accurately machined and all like parts shall be interchangeable except that parts assembled together for drilling or reaming of holes or machining will not be required to be interchangeable with like parts. All drilled holes shall be accurately located.

#### 2.2.4.1 Finished Surfaces

Surface finishes indicated on the drawings shall be in accordance with ASME B46.1. Values of required roughness heights are arithmetical average deviations expressed in microinches. These values are maximum. Lesser degrees will be satisfactory unless otherwise indicated. Compliance with surface requirements shall be determined by sense of feel and visual inspection of the work compared to Roughness Comparison Specimens in accordance with the provisions of ASME B46.1. Values of roughness width and waviness height shall be consistent with the general type of finish specified by roughness height. Where the finish is not indicated or specified it shall be that which is most suitable for the particular surface, provide the class of fit required and be indicated on the detail drawings by a symbol which conforms to ASME B46.1 when machine finishing is provided. Flaws such as scratches, ridges, holes, peaks, cracks or checks which will make the part unsuitable for the intended use will be cause for rejection.

#### 2.2.4.2 Unfinished Surfaces

All work shall be laid out to secure proper matching of adjoining unfinished surfaces unless otherwise directed. Where there is a large discrepancy between adjoining unfinished surfaces they shall be chipped and ground smooth or machined to secure proper alignment. Unfinished surfaces shall be true to the lines and dimensions shown and shall be chipped or ground free of all projections and rough spots. Depressions or holes not affecting the strength or usefulness of the parts shall be filled in an approved manner.

### 2.2.5 Miscellaneous Provisions

#### 2.2.5.1 Galvanizing

Zinc coatings shall be applied to structural steel elements indicated on the drawings in a manner and of a thickness and quality conforming to ASTM A 123. Where zinc coatings are destroyed by cutting, welding or other causes the affected areas shall be regalvanized. Coatings 2 ounces or heavier shall be regalvanized with a suitable low-melting zinc base alloy

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similar to the recommendations of the American Hot-Dip Galvanizers Association to the thickness and quality specified for the original zinc coating. Coatings less than 2 ounces shall be regalvanized by a repair compound conforming to ASTM A 780 to the thickness and quality specified for the original zinc coating.

### 2.2.6 Shop Assembly

Each structural unit furnished shall be assembled in the shop to determine the correctness of the fabrication and matching of the component parts unless otherwise specified. Tolerances shall not exceed those shown on the drawings. Each unit assembled shall be closely checked to insure that all necessary clearances have been provided. Assembly in the shop shall be in the same position as final installation in the field unless otherwise specified. Errors or defects disclosed shall be immediately remedied by the Contractor without cost to the Government. Before disassembly for shipment, each piece of a structural unit shall be match-marked to facilitate erection in the field. The location of match-marks shall be indicated by circling with a ring of white paint after the shop coat of paint has been applied or as otherwise directed.

### 2.3 TESTS, INSPECTIONS, AND VERIFICATIONS

The Contractor shall have required material tests and analyses performed and certified by an approved laboratory to demonstrate that materials are in conformity with the specifications. These tests and analyses shall be performed and certified at the Contractor's expense. Tests, inspections and verifications shall conform to the requirements of the particular sections of these specifications for the respective items of work unless otherwise specified or authorized. Tests shall be conducted in the presence of the Contracting Officer if so required. The Contractor shall furnish specimens and samples for additional independent tests and analyses upon request by the Contracting Officer. Specimens and samples shall be properly labeled and prepared for shipment.

#### 2.3.1 Nondestructive Testing

When doubt exists as to the soundness of any material part, such part may be subjected to any form of nondestructive testing determined by the Contracting Officer. This testing may include ultrasonic, magnaflux, dye penetrant, x-ray, gamma ray or any other test, appropriate to the base metal involved, that will thoroughly investigate the part in question. The cost of such investigation will be borne by the Government. Any defects will be cause for rejection and rejected parts shall be replaced and retested at the Contractor's expense.

#### 2.3.2 Tests of Structural Units

The details for tests of structural units shall conform to the requirements of the particular sections of these specifications covering these items. Each complete structural unit shall be assembled and tested in the shop in the presence of the Contracting Officer unless otherwise directed. Waiving of tests will not relieve the Contractor of responsibility for any fault in operation, workmanship or material that occurs before the completion of the contract or guarantee.

#### 2.3.3 Inspection of Structural Steel Welding

The Contractor shall maintain an approved inspection system and perform

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required inspections in accordance with the Contract Clause entitled "Inspection of Construction" of this contract. Welding shall be subject to inspection by the Contracting Officer to determine conformance with the requirements of AWS D1.1, the approved welding procedures and provisions stated in other sections of these specifications. The Contracting Officer will require nondestructive examination of designated welds and may require supplemental examination of any joint or coupon cut from any location in any joint.

### 2.3.3.1 Visual Examination

All completed welds shall be cleaned and carefully examined for insufficient throat or leg sizes, cracks, undercutting, overlap, excessive convexity or reinforcement and other surface defects to ensure compliance with the requirements of AWS D1.1, Section 3 and Section 9, Part D.

### 2.3.3.2 Nondestructive Examination

The nondestructive examination of shop and field welds shall be performed as designated or described in the sections of these specifications covering the particular items of work.

a. Testing Agency - Visual and nondestructive examination of welds and the evaluation of examination tests as to the acceptability of the welds shall be performed by a testing agency adequately equipped and competent to perform such services or by the Contractor using suitable equipment and qualified personnel. In either case the Contracting Officer's written approval of the examination procedures is required and the examination tests shall be made in the presence of the Contracting Officer. The evaluation of examination tests shall be subject to the approval of the Contracting Officer and all records shall become the property of the Government.

b. Examination Procedures - Examination procedures shall conform to the following requirements.

(1) Ultrasonic Testing - Making, evaluating and reporting ultrasonic testing of welds shall conform to the requirements of AWS D1.1, Section 6, Part C. The ultrasonic equipment shall be capable of making a permanent record of the test indications. A record shall be made of each weld tested.

(2) Radiographic Testing - Making, evaluating and reporting radiographic testing of welds shall conform to the requirements of AWS D1.1, Section 6, Part B.

(3) Magnetic Particle Inspection - Magnetic particle inspection of welds shall conform to the applicable provisions of ASTM E 709. For welds larger than 1/4-inch, each 1/4-inch thick layer of weld deposit is subject to inspection.

(4) Dye Penetrant Inspection - Dye penetrant inspection of welds shall conform to the applicable provisions of ASTM E 165.

c. Acceptability of Welds - Welds shall be unacceptable if shown to have defects prohibited by AWS D1.1, Subsection 9.25 or possess any degree of incomplete fusion, inadequate penetration or undercutting.

d. Structural Steel Welds to be Subject to Nondestructive Examination

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- In addition to any nondestructive testing designated on the drawings, 10 percent of the length of each weld shall be subject to nondestructive examination. The test method proposed shall be the method best suited to selected welds determined by the testing agency and subject to approval of the Contracting Officer.

### 2.3.3.3 Test Coupons

The Government reserves the right to require the Contractor to remove coupons from completed work when doubt as to soundness cannot be resolved by nondestructive examination. Should tests of any two coupons cut from the work of any welder show strengths less than that specified for the base metal it will be considered evidence of negligence or incompetence and such welder shall be removed from the work. When coupons are removed from any part of a structure the members cut shall be repaired in a neat manner with joints of the proper type to develop the full strength of the members. Repaired joints shall be peened as approved or directed to relieve residual stress. The expense for removing and testing coupons, repairing cut members and the nondestructive examination of repairs shall be borne by the Government or the Contractor in accordance with the Contract Clauses INSPECTION AND ACCEPTANCE.

### 2.3.3.4 Supplemental Examination

When the soundness of any weld is suspected of being deficient due to faulty welding or stresses that might occur during shipment or erection the Government reserves the right to perform nondestructive supplemental examinations before final acceptance. The cost of such inspection will be borne by the Government.

### 2.3.4 Inspection of Aluminum Welding

The Contractor shall maintain an approved inspection system and perform required inspections in accordance with the Contract Clause entitled "Inspection of Construction" of this contract. Welding shall be subject to inspection by the Contracting Officer to determine conformance with the requirements of AWS D1.2, the approved welding procedures and provisions stated in other sections of these specifications. The Contracting Officer will require nondestructive examination of designated welds and may require supplemental examination of any joint or coupon cut from any location in any joint.

#### 2.3.4.1 Visual Inspection

All completed welds shall be cleaned and carefully examined for insufficient throat or leg sizes, cracks, undercutting, overlap, excessive convexity or reinforcement and other surface defects to ensure compliance with the requirements of AWS D1.2, Section 3 and Section 8, Part C.

#### 2.3.4.2 Nondestructive Examination

The nondestructive examination of shop and field welds shall be performed as designated or described in the sections of these specifications covering the particular items of work.

a. Testing Agency - Visual and nondestructive examination of welds and the evaluation of examination tests as to the acceptability of the welds shall be performed by a testing agency adequately equipped and competent to perform such services or by the

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Contractor using suitable equipment and qualified personnel. In either case the Contracting Officer's written approval of the examination procedures is required and the examination tests shall be made in the presence of the Contracting Officer. The evaluation of examination tests shall be subject to the approval of the Contracting Officer and all records shall become the property of the Government.

b. Examination Procedures - Examination procedures shall conform to the following requirements.

(1) Ultrasonic Testing - Making, evaluating and reporting ultrasonic testing of welds shall conform to the requirements of AWS D1.2, Section 5, Part C. The ultrasonic equipment shall be capable of making a permanent record of the test indications. A record shall be made of each weld tested.

(2) Radiographic Testing - Making, evaluating and reporting radiographic testing of welds shall conform to the requirements of AWS D1.2, Section 5, Part B.

(3) Dye Penetrant Inspection - Dye penetrant inspection of welds shall conform to the applicable provisions of ASTM E 165.

c. Acceptability of Welds - Welds shall be unacceptable if shown to have defects prohibited by AWS D1.2, Section 8 Part C or possess any degree of incomplete fusion, inadequate penetration or undercutting.

### 2.3.4.3 Test Coupons

The Government reserves the right to require the Contractor to remove coupons from completed work when doubt as to soundness cannot be resolved by nondestructive examination. Should tests of any two coupons cut from the work of any welder show strengths less than that specified for the base metal, it will be considered evidence of negligence or incompetence and such welder shall be removed from the work. When coupons are removed from any part of a structure, the members cut shall be repaired in a neat manner with joints of the proper type to develop the full strength of the members.

Repaired joints shall be peened as approved or directed to relieve residual stress. The expense for removing and testing coupons, repairing cut members and the nondestructive examination of repairs shall be borne by the Government or the Contractor in accordance with the Contract Clause entitled "Inspection of Construction" of this contract.

### 2.3.4.4 Supplemental Examination

When the soundness of any weld is suspected of being deficient due to faulty welding or stresses that might occur during shipment or erection, the Government reserves the right to perform supplemental nondestructive examinations before final acceptance. The cost of such inspection will be borne by the Government.

### 2.3.5 Welding Repairs

#### 2.3.5.1 Structural Steel Welding Repairs

Defective welds in the structural steel welding repairs shall be repaired in accordance with AWS D1.1, Subsection 3.7. A welding repair plan shall

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be submitted for approval before repairs are made when deemed necessary by the Contracting Officer. Defective weld metal shall be removed to sound metal by use of air carbon-arc or oxygen gouging. The surfaces shall be thoroughly cleaned before welding. Welds that have been repaired shall be retested by the same methods used in the original inspection. Except for the repair of members cut to remove test coupons and found to have acceptable welds, costs of repairs and retesting shall be borne by the Contractor.

### 2.3.5.2 Aluminum Welding Repairs

Defective welds in the structural steel welding repairs shall be repaired in accordance with AWS D1.2, Subsection 3.7. A welding repair plan shall be submitted for approval before repairs are made when deemed necessary by the Contracting Officer. Defective weld metal shall be removed to sound metal by use of mechanical means. The surfaces shall be thoroughly cleaned before welding. Welds that have been repaired shall be retested by the same methods used in the original inspection. Except for the repair of members cut to remove test coupons and found to have acceptable welds, costs of repairs and retesting shall be borne by the Contractor.

### 2.3.6 Inspection and Testing of Steel Stud Welding

Fabrication and verification inspection and testing shall conform to the requirements of AWS D1.1, Subsection 7.8 except as otherwise specified. One stud in every 10 and studs that do not show a full 360 degree weld flash, have been repaired by welding or whose reduction in length due to welding is less than normal shall be bent or torque tested as required by AWS D1.1, Subsection 7.8. If any of these studs fail two additional studs shall be bent or torque tested. If either of the two additional studs fail all of the studs represented by the tests shall be rejected. Studs that crack under testing in either the weld, base metal or shank shall be rejected and replaced by the Contractor at no additional cost.

### 2.3.7 Inspection and Testing of Steel Forgings

#### 2.3.7.1 Material Tests

Each forging shall be permanently stamped with an identification to distinguish it from other same-size forgings, and shall also be permanently stamped with the name of the forge subcontractor or its trademark. The Contractor shall be responsible to produce a sufficient number of forging prolongations to obtain all test specimens required for testing. Repair or rejection due to failure to meet the acceptance criteria for any test shall be at the discretion of the Contracting Officer. The prolongations and locations from which specimens are taken shall be shown on the shop drawings.

#### 2.3.7.2 Tensile Tests

At least one specimen from each forge piece shall be machined and tested by the contractor to determine compliance with the mechanical requirements of ASTM A 668 Table 3. Submit a report for all tensile tests done, reporting the measured values for yield strength, tensile strength, reduction of area, and elongation. Retesting shall be as allowed by ASTM A 668. The Contractor shall prepare at least one extra specimen for each forge piece and furnish these to the Contracting Officer for the purposes of optional supplemental examination.



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### 2.3.7.3 Hardness Tests

Each forging shall be hardness tested to determine compliance with ASTM A 668. Take and report at least four (4) Brinell Hardness readings for each forged piece in the orientation required by ASTM A 668 using the requirements for "over 250 pound" forgings. Submit a report of all hardness readings taken, identifying where each reading was taken on the forging, and from which forging each reading was taken.

### 2.3.7.4 Magnetic Particle Tests

The forgings shall be subjected to magnetic particle testing as specified in ASTM A 275. The acceptance criteria for magnetic particle test indications shall be as defined in Paragraph S18 of ASTM A 788. Make and submit a permanent record of all indications greater than the acceptance criteria, using the cellophane tape method along with a sketch of where they occur on the part. These shall become part of the submitted test report.

## PART 3 EXECUTION

### 3.1 INSTALLATION

All parts to be installed shall be thoroughly cleaned. Packing compounds, rust, dirt, grit and other foreign matter shall be removed. Enclosed chambers or passages shall be examined to make sure that they are free from damaging materials. Where units or items are shipped as assemblies they will be inspected prior to installation. Disassembly and cleaning will not be required except where necessary to place the assembly in a clean condition. Pipe wrenches, cold chisels or other tools likely to cause damage to the surfaces of rods, nuts or other parts shall not be used for assembling and tightening parts. Bolts and screws shall be tightened firmly and uniformly but care shall be taken not to overstress the threads.

When a half nut is used for locking a full nut the half nut shall be placed first and followed by the full nut. Threads of all bolts except stainless steel bolts for seal attachment and panel installation shall be lubricated with an approved lubricant before assembly. Driving and drifting bolts or keys will not be permitted.

#### 3.1.1 Alignment and Setting

Each structural unit shall be accurately aligned by the use of steel shims or other approved methods so that no distortion of any member occurs before it is fastened in place. The alignment of all parts with respect to each other shall be true within the respective tolerances required.

##### 3.1.1.1 Tolerances for Stoplog Recesses

Stoplog slots shall be aligned such that the inside and bearing faces of the slot are parallel and perpendicular respectively to the flow line with points midway between main lock walls at upstream and downstream gate locations within the tolerances specified herein. Landward and riverward slots shall be in parallel alignment of each other within the tolerances specified herein.

(1) Bearing and inside faces shall be no greater than 1/8-inch out of square total including any warpage in both faces.

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(2) Bearing and inside faces shall be within 1/8-inch of plumb total in any 4 feet of length and 1/2-inch of plumb total over the entire length.

(3) Upstream and downstream slot surfaces shall be within a maximum of 1/2-inch total of the dimensions shown along any horizontal section of the slot.

(4) Bearing faces of landward and riverward slots at each horizontal section shall form a line perpendicular to the flowline with no deviation from that line greater than 1/2-inch.

(5) The centerline of inside faces of landward and riverward slots at each horizontal section shall form a line perpendicular to the flowline with no deviation from that line greater than 1/2-inch.

### 3.1.2 Blocking and Wedges

All blocking and wedges used during installation for the support of parts to be grouted shall be removed before final grouting unless otherwise directed by the Contracting Officer. Blocking and wedges left in the grout space with the approval of the Contracting Officer shall be of steel or iron.

### 3.1.3 Grouting

Grouting shall be in accordance with the procedures as specified in SECTION 03300: CAST-IN-PLACE STRUCTURAL CONCRETE.

## 3.2 PROTECTION OF FINISHED WORK

### 3.2.1 Machined Surfaces

Machined surfaces shall be thoroughly cleaned of foreign matter. All finished surfaces shall be protected by suitable means. Unassembled pins and bolts shall be oiled and wrapped with moisture resistant paper or protected by other approved means. Finished surfaces of ferrous metals to be in bolted contact shall be washed with an approved rust inhibitor and coated with an approved rust resisting compound for temporary protection during fabrication, shipping and storage periods. Finished surfaces of metals which shall be exposed after installation except corrosion resisting steel or nonferrous metals shall be painted as specified in Section 09965: PAINTING, HYDRAULIC STRUCTURES AND MACHINERY.

## 3.3 PAINTING

Surfaces of metals which shall be exposed after installation, except aluminum and galvanized steel, shall be painted as specified in SECTION 09965: PAINTING HYDRAULIC STRUCTURES AND APPURTENANT WORKS.

### 3.3.1 Workmanship

Workmanship shall be of the highest grade and in accordance with the best modern practices to conform with the specifications for the item of work being furnished.

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### SECTION 05500

#### MISCELLANEOUS METAL

##### PART 1 GENERAL

###### 1.1 SCOPE

The work covered by this section consists of providing all equipment, materials, and labor for fabricating, furnishing, and installing miscellaneous metal materials, standard articles, and shop fabricated items.

The table below lists the principal items covered by this section.

<u>Project Feature</u>	<u>Steel Items</u>
Lock Chamber Stoplog Recess Inserts	Shapes, plates, threaded rods
Lock Chamber Stoplog Recess Covers	Shapes, plates
Ladder	Steel rods, plates
Miter Gate Anchorage	Plates, bolts, shapes
Miter Gate Anchorage Anchor Bar Assemblies	Forgings, machining
Miter Gate Anchorage Recess Frames and Floor Plate	Shapes, plates, pipes, welded studs
Corner Protection, Edge Protection And Wall Armor	Plates, bars, expansion anchors
Miter Gate Anchorage Recesses	Shapes, plates, pipes, welded studs
Handrail	

###### 1.2 RELATED WORK SPECIFIED ELSEWHERE

Additional fabrication requirements and workmanship provisions for items specified in this section shall conform with the requirements of SECTION 05055: METALWORK FABRICATION, AND MISCELLANEOUS PROVISIONS.

###### 1.3 QUALITY CONTROL

###### 1.3.1 General

The Contractor shall establish and maintain quality control for all operations to assure compliance with contract requirements and maintain records of its quality control for all construction operations, including but not limited to the following:

- (1) Materials

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### (2) Fabricated Items.

#### 1.3.2 Reporting

A copy of these records and tests, as well as corrective action taken, shall be furnished to the Government daily.

#### 1.4 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)	
ASTM A 36	(1996) Carbon Structural Steel
ASTM A 325	(2000) Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength
ASTM A 490	(2000) Heat-Treated Steel Structural Bolts, 150 ksi Minimum Tensile Strength
ASTM A 563	(2000) Carbon and Alloy Steel Nuts

#### U. S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1	(1996) Safety and Health Requirements Manual
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#### 1.5 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

##### SD-02 Shop Drawings

Shop Fabricated Metal Items; G, STR.

Detail drawings shall be submitted for approval as specified and in Section 05055: METALWORK FABRICATION AND MISCELLANEOUS PROVISIONS.

##### SD-03 Product Data

Miscellaneous Metals and Standard Metal Articles; G, STR.  
Shop Fabricated Metal Items; G, STR.

Lists of materials shall be submitted for approval as specified and in Section 05055: METALWORK FABRICATION AND MISCELLANEOUS PROVISIONS. Records which identify the disposition of approved material and fabricated items in the work must be submitted for

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approval as specified and in Section 05055: METALWORK FABRICATION AND MISCELLANEOUS PROVISIONS.

### SD-06 Test Reports

Miscellaneous Metals and Standard Metal Articles; G, STR.  
Shop Fabricated Metal Items; G, STR.

Certified test reports for materials tests and analyses shall be submitted for approval as specified and in Section 05055: METALWORK FABRICATION AND MISCELLANEOUS PROVISIONS.

### 1.6 FABRICATION AND WORKMANSHIP REQUIREMENTS

Fabrication requirements and workmanship provisions for items specified in this section shall conform with the requirements of SECTION 05055: METALWORK FABRICATION AND MISCELLANEOUS PROVISIONS.

## PART 2 PRODUCTS

### 2.1 MISCELLANEOUS METALS AND STANDARD ARTICLES

Miscellaneous metal materials and standard articles shall conform to the respective specifications and other designated requirements. Sizes shall be as specified or as shown on the drawings. Where material requirements are not specified, materials furnished shall be suitable for the intended use and shall be subject to the approval of the Contracting Officer.

#### 2.1.1 Structural Steel

##### 2.1.1.1 Shapes, Plates, Bars and Threaded Rods

ASTM A 36, unless otherwise indicated.

ASTM A 572, Grade 50, unless otherwise indicated.

ASTM A 709 for welded tension members. Material toughness shall meet material toughness requirements of Supplementary Requirement S83 for Impact Testing Temperature Zone 3.

ASTM A 992, unless otherwise indicated.

#### 2.1.2 Steel Pipes

ASTM A 53, Type E or S, Grade B, galvanized, nominal size and weight class or outside diameter and nominal wall thickness as shown.

#### 2.1.3 Steel Forgings

ASTM A 668, Class G, carbon content not exceeding 0.35 percent, and an overall chemical composition which results in satisfactory weldability.

#### 2.1.4 Aluminum

##### 2.1.4.1 Floor Plate

ASTM B 632, Alloy 6061, Temper T6.

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### 2.1.4.2 Bars

ASTM B 211, Alloy 6061, Temper T6.

### 2.1.5 Bolts, Nuts, and Washers

Bolts, nuts, and washers shall be of the material, grade, type, class, style and finish indicated or best suited for intended use.

#### 2.1.5.1 High-Strength Bolts, Nuts, and Washers

ASTM A 325, Type 3, with carbon steel nuts conforming to ASTM A 563, Grade C or DH., unless otherwise shown or indicated. All high strength bolts shall be pretensioned.

ASTM A 490, Type 3, with carbon steel nuts conforming to ASTM A 563, Grade DH, unless otherwise shown or indicated.

Pretensioning shall be in accordance with the latest edition of AISC Specification for Structural Joints Using ASTM A 325 or A 490 Bolts. All joints using high strength bolts are specified as type PT in accordance with AISC Specification for Structural Joints Using ASTM A 325 or A 490 Bolts and are subject to surface preparation, installation, and inspection requirements of the AISC specifications. When ASTM A 490 bolts are pretensioned in connected material of specified minimum yield strength less than 40 ksi, ASTM F436 washers shall be used under both the bolt head and nut.

#### 2.1.5.2 Bolts, Nuts, and Washers (Other Than High-Strength)

- a. Bolts - ASTM A 307, Grade A, hot-dip galvanized.
- b. Nuts - ASTM A 563, Grade A.
- c. Washers
  - (1) Plain Washers - ASTM F 844.
  - (2) Hardened Washer - ASTM F 436.
  - (3) Beveled Washers - ASTM F 436, Type 1, Beveled.

#### 2.1.6 Nut Dimensional Style

Carbon steel nuts shall be Hex style when used with ASTM A 307 bolts and Heavy Hex style when used with ASTM A 325 and ASTM A 490 bolts.

#### 2.1.7 Concrete Expansion Anchors

Concrete anchors shall be of the externally threaded, wedge expansion type. Diameters and embedment depths shall be as shown on the drawings. If embedment depth is not shown on the drawings, the greatest depth for the diameter required from the proof test load table below shall be used. Unless specified otherwise on the drawings, anchors shall develop the proof test loads shown in the table below when embedded to the depths listed in concrete of 3000 psi compressive strength.

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<u>SHANK DIAMETER(in)</u>	<u>EMBED. DEPTH(in)</u>	<u>TENSILE PROOF LOAD(lbs)</u>
0.25	1.125	1350
	1.25	1450
	1.375	1500
0.3125	1.125	1800
	1.25	1900
	1.375	1900
0.375	1.375	3000
	1.5	3200
	1.75	3689
0.5	1.75	3700
	2.25	4200
	2.5	5065
0.625	2.375	6940
	3.375	9560
	3.875	10192
0.75	3.875	17194
0.875	5.	19000
1.0	6.	22500
1.25	7.5	37000
1.5	8.5	52000

### 2.2 SHOP FABRICATED METAL ITEMS

Shop fabricated metal items shall conform to the requirements and details as specified or shown and to the workmanship provisions and other applicable fabrication requirements as specified in Section 05055: METALWORK FABRICATION AND MISCELLANEOUS PROVISIONS.

#### 2.2.1 Handrailing

Railings shall be of the type specified and shown and shall be furnished and installed complete with all fittings, brackets, fasteners, sleeves, anchors, and other appurtenances as shown and as required for proper installation.

##### 2.2.1.1 Materials

Aluminum railings shall be of pipe or tube as specified in paragraph PIPES AND TUBES. Steel railings shall be of steel as specified in paragraph PIPE. Sleeves and other appurtenances shall be of the same material as the rails and posts or approved compatible materials.

##### 2.2.1.2 Fabrication

Rigid joints in railings shall be of slip-on fittings assembly. Slip-on fittings shall be tight-fitting. Fasteners for slip-on fittings shall be the self-locking, concealed type. Fasteners for steel fittings shall be of stainless steel. Expansion sleeves in railings shall be an outer-sleeved slip-joint type, with one end of the sleeve secured to one rail and the ends of the adjoining rails separated a minimum of 1 inch in the installed position. Expansion sleeve shall be located in rails near the intersection of rails and posts as shown. Replacement railings shall be free of burrs, sharp corners, and sharp edges. Replacement railing shall be designed such that the installed railings are capable of withstanding a design working load of 200 pounds applied in any direction at any point on the top rail



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without permanent deformation.

### 2.2.1.3 Installation

Existing railing shall be modified and new railings installed as specified and shown. Railing posts anchored to concrete surfaces perpendicular to the posts shall be rigidly secured to flange fittings anchored to concrete with expansion anchors.

### 2.2.2 Gratings and Floor Plates

Grating and floor plates shall be of the material and size shown, and shall be fabricated in sectional panels of the width and length shown, or as appropriate, to accurately fit within the supporting recess frames. Openings through panels shall be provided as shown or as required.

#### 2.2.2.1 Grating

Steel grating shall be provided as shown on the drawings. Where bar sizes are not shown, grating shall be designed in accordance with NAAMM MBG 531 to meet the indicated load requirements. Edges shall be banded with bars 1/4 inch less in height than bearing bars. Banding bars shall be flush with the top of bearing grating. Frames shall be of welded steel construction finished to match the grating. Gratings and frames shall be galvanized after fabrication.

#### 2.2.2.2 Floor Plates

Cover plates shall be as specified in paragraph ALUMINUM FLOOR PLATE. Cover plate panels shall be provided with 1/2 inch bar, flush, drop handles for removal as shown on the drawings. Sharp edges and burrs shall be removed from plates.

### 2.2.3 Recess Frames

Recess frames shall be fabricated of structural shapes of the type shown. Welded joints in frames shall be ground smooth. Steel frames shall be galvanized after fabrication. Frames shall be anchored to supports in the manner shown and shall not be continuous across contraction or expansion joints.

### 2.2.4 Ladders

Ladders shall be fixed-rail metal ladders conforming to the requirements of EM 385-1-1 and to details shown. Ladders shall be fabricated of structural steel as shown and shall be galvanized after fabrication. Fabrication of ladders shall consist of solid-section rod rungs fitted into holes in side plates and welded.

#### 2.2.5 Ladder Rungs

Ladder rungs shall be fabricated from steel rods in accordance with the details shown on the drawings.

#### 2.2.6 Lock Wall Armor

Lock wall armor tees and preformed corner protection plates shall be fabricated from steel conforming to ASTM A 36, except that minimum yield strength shall be 33,000 psi, maximum tensile strength shall be waived, and

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the maximum allowable manganese content shall be 1.40 percent. Tees may be commercially rolled sections or may be fabricated from steel plates provided they have a nominal weight of not less than 28.2 pounds per foot and conform essentially to details shown. Installation shall conform to details shown. Tees and preformed plates shall be erected true to line and grade. The continuous edges of exposed faces shall not have a vertical or horizontal distortion from a straight line greater than 0.025 inch per foot of length. Distortion for any single section shall not exceed 1.4 inches. Where there is a warp in the installed tees or preformed plates greater than 1/16 inch, an extra anchor shall be installed at the proper location to draw the section into position. Bolt heads on exposed faces shall be counter sunk and fitted so that they are flush with the finished surfaces. Joints between abutting sections shall be square and the butting ends shall be sawed or otherwise made smooth and regular.

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## SECTION 09965

### PAINTING, HYDRAULIC STRUCTURES AND MACHINERY

#### PART 1 GENERAL

##### 1.1 SCOPE

The work covered under this section includes the requirements for furnishing all plant, labor, equipment, and materials, except materials specified to be furnished by the Government, and performing all operations in connection with the preparation of surfaces and the application of paints for hydraulic structures and appurtenant items in accordance with these specifications and applicable drawings.

Orange primer, yellow, red and silver paint on existing metal surfaces is lead containing. Items with lead based paint include and are not limited to: armor/edge protection, floating and fixed mooring bitts, ladders, handrails, auxiliary lock miter gate, kevels, check posts, navigation light standards, visitors platform, hoists and davits, short light standards, bird house pole, water and air pipe on handrail and in concrete, and miscellaneous metal items.

##### 1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

#### AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI Z87.1	(1989; Errata; Z87.1a) Occupational and Educational Eye and Face Protection
ANSI Z358.1	(1990) Emergency Eyewash and Shower Equipment

#### AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM D 12	(1988; R 1998) Raw Tung Oil
ASTM D 153	(1986; R 1996el) Specific Gravity of Pigments
ASTM D 281	(1995) Oil Absorption of Pigments by Spatula Rub-Out
ASTM D 520	(1984; R 1995el) Zinc Dust Pigment
ASTM D 561	(1982; R 1999) Carbon Black Pigment for Paint
ASTM D 841	(1997) Nitration Grade Toluene

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ASTM D 962	(1981; R 1999) Aluminum Powder and Paste Pigments for Paints
ASTM D 1045	(1995) Sampling and Testing Plasticizers Used in Plastics
ASTM D 1152	(1989; R 1997) Methanol (Methyl Alcohol)
ASTM D 1153	(1994; R 1997) Methyl Isobutyl Ketone
ASTM D 1200	(1994; R 1999) Viscosity by Ford Viscosity Cup
ASTM D 1210	(1996) Fineness of Dispersion of Pigment-Vehicle Systems by Hegman-Type Gage
ASTM D 1308	(1987; R 1998) Effect of Household Chemicals on Clear and Pigmented Organic Finishes
ASTM D 1475	(1998) Density of Paint, Varnish, Lacquer, and Related Products
ASTM D 1640	(1995; R 1999) Drying, Curing, or Film Formation of Organic Coatings at Room Temperature
ASTM D 2369	(1998) Volatile Content of Coatings
ASTM D 3721	(1983; R 1999) Synthetic Red Iron Oxide Pigment
ASTM D 4206	(1996) Sustained Burning of Liquid Mixtures Using the Small Scale Open-Cup Apparatus
ASTM D 4417	(1993; R 1999) Field Measurement of Surface Profile of Blast Cleaned Steel
ASTM E 1347	(1997) Color and Color-Difference Measurement by Tristimulus (Filter) Colorimetry

### U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

29 CFR 1910	Occupational Safety and Health Standards
29 CFR 1910.20	Access to Employee Exposure and Medical Records
29 CFR 1910.94	Ventilation
29 CFR 1910.139	Respiratory Protection
29 CFR 1910.146	Permit-required Confined Spaces
29 CFR 1910, Subpart I	Personal Protective Equipment
29 CFR 1926	Safety and Health Regulations for Construction

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29 CFR 1926.62	Safety and Health Regulations for Construction - Lead
40 CFR 117	Determination of Reportable Quantities for Hazardous Substances
40 CFR 122	EPA Administered Permit Programs: The National Pollutant Discharge Elimination System
40 CFR 261	Identification and Listing of Hazardous Waste
40 CFR 262	Standards Applicable to Generators of Hazardous Waste
40 CFR 262.22	Number of Copies
40 CFR 263	Standards Applicable to Transporters of Hazardous Waste
40 CFR 302	Designation, Reportable Quantities, and Notification
40 CFR 355	Emergency Planning and Notification

### U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1	(1996) U.S. Army Corps of Engineers Safety and Health Requirements Manual
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### NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 70	(1999) National Electrical Code
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### THE SOCIETY FOR PROTECTIVE COATINGS (SSPC)

SSPC Guide 6	(1995) Containing Debris Generated During Paint Removal Operations
SSPC SP 5	(1994) White Metal Blast Cleaning

## 1.3 WORK PERFORMANCE

Work shall be performed in accordance with the requirements of 29 CFR 1910, 29 CFR 1926, EM 385-1-1, and other references as listed herein. Matters of interpretation of the standards shall be submitted to the Contracting Officer for resolution before starting work. Where the regulations conflict, the most stringent requirements shall apply.

## 1.4 LEAD PROTECTION PROGRAM

For all job sites where lead is present, the Contractor shall develop a comprehensive environmental protection program and worker protection program addressing lead hazards for all job sites where lead is known to be present. See paragraph SUBMITTALS, "Worker Protection Plan" for worker

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protection requirements including 29 CFR 1926.62 lead protection requirements. The environmental protection program shall include, but is not limited to the following:

- a. Containment Plan
- b. Visible Emissions Monitoring Plan
- c. Ambient Air Monitoring Plan
- d. Water Quality Plan
- e. Soil Quality Plan

### 1.5 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

#### SD-03 Product Data

##### Accident Prevention Plan; G, CO

The requirements included in Section 01 of EM 385-1-1 shall be followed by the Contractor when preparing the Accident Prevention Plan. The plan shall be prepared for all sites and shall include, but is not limited to, each of the topic areas listed in Table 1.1 therein and the requirements of paragraph SAFETY AND HEALTH PROVISIONS; each topic shall be developed in a concise manner to include management and operational aspects. Where lead is known to be present, a written lead compliance program required by 29 CFR 1926.62(e) shall be included as an attachment to the AAP. The written compliance program for lead shall also address 29 CFR 1926.62(d), and 29 CFR 1926.62(f) through 29 CFR 1926.62(n) where each of the topics are not otherwise addressed in this section.

##### Confined Space Procedures; G, CO

The Contractor shall develop detailed written standard operating procedures for confined spaces for all job sites in accordance with 29 CFR 1910.146 and as further described in this paragraph.

- a. The contractor shall supply certificates of calibration for all testing and monitoring equipment. The certificates of calibration shall include: type of equipment, model number, date of calibration, firm conducting calibration, and signature of individual certifying calibration.
- b. The procedures shall include methods of inspection of personal protective equipment prior to use.
- c. The procedures shall include work practices and other engineering controls designed to reduce airborne hazardous chemical exposures to a minimum.



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d. The procedures shall include specification of the design and installation of ventilation systems which shall provide adequate oxygen content and provide for the dilution of paint solvent vapor, lead, and other toxic particulates within the confined space. In addition, the contractor shall include plans to evaluate the adequacy of air flow patterns.

### Respiratory Protection Program; G, CO

The Contractor shall submit a comprehensive written respiratory protection program for all job sites in accordance with 29 CFR 1910.139, 29 CFR 1926.62, and Section 05.E of EM 385-1-1.

### Airborne Sampling Plan; G, CO

The contractor shall develop an Airborne Sampling Plan for all job sites detailing the NIOSH Pub No. 84-100, Factory Mutual, or Underwriters Laboratories approved equipment, equipment calibration procedures, sampling methods, sampling to be performed, and analytical procedures to be used based on the type of work to be performed and anticipated toxic contaminants to be generated. The contractor shall include the name of the accredited laboratory, listed by the American Industrial Hygiene Association (AIHA), to be used to conduct the analysis of any collected air samples. In addition, the contractor shall provide the Contracting Officer with a copy of the test results from the laboratory within 5 working days of the sampling date and shall provide results from direct reading instrumentation on the same day the samples are collected.

### Ventilation Assessment; G, CO

The contractor shall develop a plan to provide ventilation assessment for all job sites as required by paragraph PAINT APPLICATION, subparagraph VENTILATION.

### Medical Surveillance Plan; G, CO

The Contractor shall develop a plan to provide medical surveillance to the workforce for all job sites as required in paragraph MEDICAL STATUS and provide a statement from the examining physician indicating the name of each employee evaluated and any limitations which will preclude the employee from performing the work required. The statement shall include the date of the medical evaluation, the physician's name, signature, and telephone number. Medical records shall be maintained as required by 29 CFR 1910.20.

### Worker Protection Plan; G, CO

The Contractor shall submit a Worker Protection Plan in accordance with the requirements of 29 CFR 1926.62. The plan shall address all necessary aspects of worker protection and shall include activities emitting lead, means to achieve compliance, alternative technologies considered, air monitoring program, implementation schedule, work practice program, administrative controls, multicontractor site arrangements, and jobsite inspections.

### Environmental Compliance Plan; G,

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If lead paint is to be removed, the Contractor shall submit an Environmental Compliance Plan. The plan shall incorporate the submittals for Water Quality Plan, Soil Quality Plan, Ambient Air Monitoring Plan, and Visible Emissions Monitoring Plan. The submitted plan shall also address all aspects of establishing and demarcating regulated areas, ventilation/containment system performance verification, and reporting of accidental releases.

### Waste Classification, Handling, and Disposal Plan; G, CO

The Contractor is responsible for assuring the proper disposal of all hazardous and nonhazardous waste generated during the project. Therefore, the contractor shall develop a Waste Classification, Handling, and Disposal Plan for all job sites in accordance with the requirements of 40 CFR 261 and 40 CFR 262. In addition, the following provisions shall be included:

- a. In the case of waste generated from abrasive blasting lead containing paints with recyclable steel or iron abrasives, the spent abrasive shall be disposed of as a hazardous waste or shall be stabilized with proprietary blast additives regardless of the results of 40 CFR 261, App II, Mtd 1311. Where stabilization is preferred, the contractor shall employ a proprietary blast additive during blasting operations.
- b. Hazardous waste shall be placed in closed containers and shall be shielded adequately to prevent dispersion of the waste by wind or water. Any evidence of improper storage shall be cause for immediate shutdown of the project until corrective action is taken.
- c. Nonhazardous waste shall be stored in closed containers separate from hazardous waste storage areas.
- d. All hazardous waste shall be transported by a licensed transporter in accordance with 40 CFR 263 and 49 CFR 171, Subchapter C.
- e. All nonhazardous waste shall be transported in accordance with local regulations regarding waste transportation.
- f. In addition to the number of manifest copies required by 40 CFR 262.22, one copy of each manifest will be supplied to the Contracting Officer prior to transportation.

### Containment Plan; G, CO

For all job sites where lead is present, the Contractor shall develop a plan for containing all lead contaminated waste. The containment shall comply with the requirements of SSPC Guide 6, Class 1. The plan shall include drawings, load-bearing capacity calculations, and wind load calculations. When the design is such that the spent abrasive is allowed to accumulate in quantities greater than 1000 pounds and/or impart a significant wind load on the structure, the contractor shall have the drawings approved by a registered structural engineer. The drawings and calculations shall be stamped with the engineer's seal. The contractor shall also identify the type and placement of water booms, methods for anchoring the booms, and the procedures for removing debris.

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### Visible Emissions Monitoring Plan; G, CO

For all job sites where lead is present, a Visible Emissions Monitoring Plan is required for job sites requiring moderate control on emissions. The Contractor shall develop a plan for monitoring the visible emissions from the project. The time of emissions shall be measured in accordance with 40 CFR 60, App A, Mtd 22. The plan shall also include the provisions for halting the work and correcting the containment in the event unacceptable emissions are observed. General statements shall not be used; specific methods, procedures and details are required. Random emissions from the containment shall not exceed one percent of the work day. The Contractor shall document each time that the work is halted due to a violation of the visible emissions criteria. Documentation shall include the cause for shutdown and the corrective action taken to resolve the problem.

### Water Quality Plan; G, CO

For all job sites where lead is present, the Contractor shall develop a plan to ensure that no lead is released into bodies of water or storm sewers. Therefore, NPDES permits per EPA regulation 40 CFR 122 are not required for the project. The plan shall include provisions for halting work if spills or emissions are observed entering into bodies of water or found in areas where storm water runoff could carry the debris into bodies of water or storm sewers. The plan shall also address cleanup and reporting procedures. In the event that there are any releases of lead paint debris into the waterways, with reportable quantities of hazardous substances designated pursuant to Section 311 of the Clean Water Act, they shall be reported to the EPA in accordance with 40 CFR 117 and 40 CFR 355. Releases or spills that carry into waterways or storm sewers shall be thoroughly documented. The documentation shall include the time and location of the release, amount of material released, actions taken to clean up the debris, amount of debris recovered, and corrective action taken to avoid a reoccurrence. Releases shall also be reported to the Coast Guard and other state and local authorities as appropriate. If the release is equivalent to 10 pounds or more of lead containing material in a 24 hour period, it is considered to be a reportable quantity under CERCLA. The Contractor shall comply with 40 CFR 302.

### Soil Quality Plan; G, CO

For all job sites where lead is present, the Contractor shall develop a plan to establish and implement practices and procedures for preventing contamination of the soil from the lead removal operation. The plan shall include provisions for halting the work should soil contamination occur, correcting the deficiencies responsible for the contamination, and provide procedures for removing and replacing contaminated soil. Unless otherwise directed by the Contracting Officer, soil shall be considered to have been contaminated by the Contractor's operation if an increase in the total lead content of 100 PPM or greater over background levels occurs. Soil sampling and lead testing shall be conducted prior to the beginning of the project and after the project is

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completed. Interim testing may also be performed in the event the Contractor or Contracting Officer wants to confirm that the containment system and work practices continue to provide satisfactory protection of the soil. Unless otherwise directed by the Contracting Officer, the following minimum test locations shall be selected for soil analysis. Two locations shall be selected beneath or immediately adjacent to the structure being prepared, and additional samples shall be taken within 100 feet in each direction of the project (i.e. N, S, E, W) in which soil is present. The number of soil sample locations shall be sufficient to adequately characterize the soil lead levels within and around the project area. Three composite samples shall be collected at each location. Each of the three samples shall be comprised of five individual plugs of soil combined in a single bag. The composite samples at each location shall be collected using the following procedure:

- a. Place a 1 square foot template at each location.
- b. Remove a sample of soil  $\frac{3}{4}$  inch in diameter and  $\frac{1}{2}$  inch in depth at the center of the template and at each of the four corners. Place the five soil plugs into a single bag. This represents one of the three samples to be removed at a given location.
- c. Move the template 1 inch in any direction and repeat the process to collect the second sample. Place all plugs in a separate bag. Move the template 1 inch farther to collect the third sample.
- d. Identify each sample bag with the date, specific location of the sample, name and signature of the sampling technician, and complete chain of custody records.
- e. It is critical that the specific location of each sample be thoroughly measured and documented as the final project testing (and any interim testing) must be sampled in the precise locations.

One of the three samples collected at each location shall be analyzed for lead content. One of the remaining two samples shall be maintained by the Contractor for the duration of the project and the other by the Contracting Officer in the event a reanalysis is required. The samples shall be analyzed in accordance with EPA testing guidance as published in 40 CFR 261, App III, by a laboratory listed with the American Industrial Hygiene Association (AIHA) as being proficient in conducting the test. The contractor shall note that if it is determined that contamination of the soil has occurred as a result of the paint removal operations, TCLP testing will be employed to determine if the soil must be handled and disposed of as a hazardous waste. The initial sampling of the soil for total lead content does not establish whether the soil would be considered hazardous by TCLP testing. As a result, at the Contractor's option, additional prejob soil samples may be removed (minimum of 100 grams is required for a single test at each site) to conduct TCLP testing to establish whether the soil would be classified as hazardous prior to project startup. In the event that there is a release of lead paint debris onto the soil and if the release is 10 pounds or more of lead-containing material in a

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24-hour period, it is considered to be a reportable quantity under CERCLA. The Contractor shall comply with 40 CFR 302. The Contractor shall thoroughly document the occurrence of any spills of lead debris into the soil. The documentation shall include the time and location of the release, amount of material released, actions taken to clean up the debris, amount of debris reclaimed, and corrective action taken to avoid a reoccurrence. The documentation shall be provided to the Contracting Officer and shall also include the results of laboratory testing.

### SD-04 Samples

#### Special Paint Formulas; G, MEA

Samples of special paint formulas, listed in paragraph PAINT FORMULATIONS, shall be submitted. For all vinyl type paints submitted for laboratory testing, separate 1/2 pint samples of ingredient raw materials shall be furnished. The ingredient samples shall be clearly identified by commercial name, trade designation, manufacturer, batch or lot number, and such other data as may be required. For all epoxy type paints submitted for laboratory testing, a list of ingredient raw materials identifying commercial name, trade designation, manufacturer, batch or lot number, and such other data as may be required shall be furnished.

#### Specification and Proprietary Paints; G, MEA,

Federal, Military, Commercial Item Description, and SSPC: The Society for Protective Coatings specification paints are those formulated to meet federal, military, government and industry specifications. When the required quantity of any type is 50 gallons or less, the Contractor can submit:

- a. A certified test report showing the results of required tests made on the material and a statement that it meets all of the specification requirements.
- b. A certified test report showing the results of required tests made on a previous batch of paint produced by the same firm using the same ingredients and formulation except for minor differences necessitated by a color change and a statement that the previous batch met all of the specification requirements. A report of tests on the proposed batch showing the following properties applicable to the material specifications shall be furnished: color, gloss, drying time, opacity, viscosity, weight per gallon, and fineness of grind.
- c. A proprietary paint - When the required quantity of a particular type or color of a paint is 10 gallons or less, a proprietary, name brand, shelf item paint of the same type and with similar properties to the material specified may be proposed without sampling. Proprietary paints are any which do not follow the formulas in paragraph PAINT FORMULATIONS or the complete specification requirements of the government or industry specifications. To receive consideration, a statement from the supplier that the paint is appropriate as to type, color, and gloss and is a premium grade of paint shall be furnished.

#### Thinners; G, MEA

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Samples shall be submitted of the thinners which are those solvents used to reduce the viscosity of the paint.

### SD-06 Test Reports

Inspections and Operations; G, CO

The Contractor shall document and submit records of inspections and operations performed. Submittals shall be made on a daily basis and shall include but are not limited to:

- a. Inspections performed, including the area of the structure involved and the results of the inspection.
- b. Surface preparation operations performed, including the area of the structure involved, the mode of preparation, the kinds of solvent, abrasive, or power tools employed, and whether contract requirements were met.
- c. Thinning operations performed, including thinners used, batch numbers, and thinner/paint volume ratios.
- d. Application operations performed, including the area of the structure involved, mode of application employed, ambient temperature, substrate temperature, dew point, relative humidity, type of paint with batch numbers, elapsed time between surface preparation and application, elapsed time for recoat, condition of underlying coat, number of coats applied, and if specified, measured dry film thickness or spreading rate of each new coating.

### SD-07 Certificates

Qualifications and Experience; G, CO

The Contractor shall provide certification pursuant to paragraph QUALIFICATIONS for all job sites. Submittal of the qualifications and experience of any additional qualified and competent persons the CIH, IH, CSP employs to provide on site safety and health will also be provided. Acceptance of this submission must be obtained prior to the submission of other required safety and health submittal items.

## 1.6 QUALIFICATIONS

Qualifications and experience shall comply with the following.

### 1.6.1 Certified Professional

The Contractor shall provide a person who is qualified and competent as defined in Section 01 of EM 385-1-1, will develop the required safety and health submittal, and will be responsible for on site safety and health during the contract period. The person shall be a Certified Industrial Hygienist (CIH), an Industrial Hygienist (IH), or a Certified Safety Professional (CSP) with a minimum of 3 years of demonstrated experience in similar related work. The Contractor shall certify that the Certified Industrial Hygienist (CIH) holds current and valid certification from the American Board of Industrial Hygiene (ABIH), that the IH is considered board eligible by written confirmation from the ABIH, or that the CSP holds

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current and valid certification from the American Board of Certified Safety Professionals. The CIH, IH, or CSP may utilize other qualified and competent persons, as defined in EM 385-1-1, to conduct on site safety and health activities as long as these persons have a minimum of 3 years of demonstrated experience in similar related work and are under the direct supervision of the CIH, IH, or CSP. For lead containing job sites, the competent and qualified person shall have successfully completed an EPA or state accredited lead based paint abatement Supervisor course specific to the work to be performed and shall possess current and valid state and/or local government certification, as required.

### 1.6.2 Certified Laboratory

The Contractor shall provide documentation which includes the name, address, and telephone number of the laboratories to be providing services.

In addition, the documentation shall indicate that each laboratory is an EPA National Lead Laboratory Accreditation Program (NLLAP) accredited laboratory and that each is rated proficient in the NIOSH/EPA Environmental Lead Proficiency Analytical Testing Program (ELPAT) and will document the date of current accreditation. Certification shall include accreditation for heavy metal analysis, list of experience relevant to analysis of lead in air, and a Quality Assurance and Quality Control Program.

### 1.7 SAMPLING AND TESTING

The Contractor shall allow at least 30 days for sampling and testing. Sampling may be at the job site or source of supply. The Contractor shall notify the Contracting Officer when the paint is available for sampling. Sampling of each batch shall be witnessed by the Contracting Officer unless otherwise specified or directed. A 1 quart sample of paint and thinner shall be submitted for each batch proposed for use. The sample shall be labeled to indicate formula or specification number and nomenclature, batch number, batch quantity, color, date made, and applicable project contract number. Testing will be performed by the Government. Costs for retesting rejected material will be deducted from payments to the Contractor.

### 1.8 SAFETY AND HEALTH PROVISIONS

Paragraph SAFETY AND HEALTH PROVISIONS supplements the requirements of EM 385-1-1, paragraph (1). In any conflict between Section 01 of EM 385-1-1 and this paragraph, the provisions herein shall govern.

#### 1.8.1 Abrasive Blasting

The Contractor shall comply with the requirements in Section 06.H of EM 385-1-1.

##### 1.8.1.1 Hoses And Nozzles

In addition to the requirements in Section 20 of EM 385-1-1, hoses and hose connections of a type to prevent shock from static electricity shall be used. Hose lengths shall be joined together by approved couplings of a material and type designed to prevent erosion and weakening of the couplings. The couplings and nozzle attachments shall fit on the outside of the hose and shall be designed to prevent accidental disengagement.

##### 1.8.1.2 Workers Other Than Blasters

Workers other than blasting operators working in close proximity to

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abrasive blasting operations shall be protected by utilizing MSHA/NIOSH-approved half-face or full-face air purifying respirators equipped with high-efficiency particulate air (HEPA) filters, eye protection meeting or exceeding ANSI Z87.1 and hearing protectors (ear plugs and/or ear muffs) providing a noise reduction rating of at least 20 dBA or as needed to provide adequate protection.

### 1.8.2 Cleaning with Compressed Air

Cleaning with compressed air shall be in accordance with Section 20.B.5 of EM 385-1-1 and personnel shall be protected as specified in 29 CFR 1910.139.

### 1.8.3 Cleaning with Solvents

#### 1.8.3.1 Ventilation

Ventilation shall be provided where required by 29 CFR 1910.146 or where the concentration of solvent vapors exceeds 10 percent of the Lower Explosive Limit (LEL). Ventilation shall be in accordance with 29 CFR 1910.94, paragraph (c)(5).

#### 1.8.3.2 Personal Protective Equipment

Personal protective equipment shall be provided where required by 29 CFR 1910.146 and in accordance with 29 CFR 1910, Subpart I.

### 1.8.4 Pretreatment of Metals and Concrete with Acids

#### 1.8.4.1 Personal Protective Equipment

Personnel shall be protected in accordance with 29 CFR 1910, Subpart I.

#### 1.8.4.2 Emergency Equipment

In addition to the requirements of Section 05 of EM 385-1-1, the contractor shall provide an eyewash in accordance with ANSI Z358.1, paragraph (6).

### 1.8.5 Paint Application

#### 1.8.5.1 Ventilation

When using solvent based paint in confined spaces, ventilation shall be provided to exchange air in the space at a minimum rate of 5,000 cubic feet per minute per spray gun in operation. It may be necessary to install both a mechanical supply and exhaust ventilation system to effect adequate air changes within the confined space. All air moving devices shall be located and affixed to an opening of the confined space in a manner that assures that the airflow is not restricted or short circuited and is supplied in the proper direction. Means of egress shall not be blocked. Ventilation shall be continued after completion of painting and through the drying phase of the operation. If the ventilation system fails or the concentration of volatiles exceeds 10 percent of the LEL (except in the zone immediately adjacent to the spray nozzle), painting shall be stopped and spaces evacuated until such time that adequate ventilation is provided.

An audible alarm that signals system failure shall be an integral part of the ventilation system. The effectiveness of the ventilation shall be checked by using ventilation smoke tubes and making frequent oxygen and



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combustible gas readings during painting operations. Exhaust ducts shall discharge clear of the working areas and away from possible sources of ignition.

### 1.8.5.2 Explosion Proof Equipment

Electrical wiring, lights, and other equipment located in the paint spraying area shall be of the explosion proof type designed for operation in Class I, Division 1, Group D, hazardous locations as required by the NFPA 70. Electrical wiring, motors, and other equipment, outside of but within 20 feet of any spraying area, shall not spark and shall conform to the provisions for Class I, Division 2, Group D, hazardous locations. Electric motors used to drive exhaust fans shall not be placed inside spraying areas or ducts. Fan blades and portable air ducts shall be constructed of nonferrous materials. Motors and associated control equipment shall be properly maintained and grounded. The metallic parts of air moving devices, spray guns, connecting tubing, and duct work shall be electrically bonded and the bonded assembly shall be grounded.

### 1.8.5.3 Further Precautions

- a. Workers shall wear nonsparking safety shoes.
- b. Solvent drums taken into the spraying area shall be placed on nonferrous surfaces and shall be grounded. Metallic bonding shall be maintained between containers and drums when materials are being transferred.
- c. Insulation on all power and lighting cables shall be inspected to ensure that the insulation is in excellent working condition and is free of all cracks and worn spots. Cables shall be further inspected to ensure that no connections are within 50 feet of the operation, that lines are not overloaded, and that they are suspended with sufficient slack to prevent undue stress or chafing.

### 1.8.5.4 Ignition Sources

Ignition sources, to include lighted cigarettes, cigars, pipes, matches, or cigarette lighters shall be prohibited in area of solvent cleaning, paint storage, paint mixing, or paint application.

### 1.8.6 Health Protection

#### 1.8.6.1 Respirators

During all spray painting operations, spray painters shall use approved SCBA or SAR (air line) respirators, unless valid air sampling has demonstrated contaminant levels to be consistently within concentrations that are compatible with air purifying respirator Assigned Protection Factor (APF). Persons with facial hair that interferes with the sealing surface of the facepiece to face seal or interferes with respirator valve function shall not be allowed to perform work requiring respiratory protection. Air purifying chemical cartridge/canister half or full facepiece respirators that have a particulate prefilter and are suitable for the specific type(s) of gas/vapor and particulate contaminant(s) may be used for nonconfined space painting, mixing, and cleaning (using solvents).

These respirators may be used provided the measured or anticipated concentration of the contaminant(s) in the breathing zone of the exposed worker does not exceed the APF for the respirator and the gas/vapor has

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good warning properties or the respirator assembly is equipped with a NIOSH approved end of service life indicator for the gas(es)/vapor anticipated or encountered. Where paint contains toxic elements such as lead, cadmium, chromium, or other toxic particulates that may become airborne during painting in nonconfined spaces, air purifying half and full facepiece respirators or powered air purifying respirators equipped with appropriate gas vapor cartridges, in combination with a high efficiency filter, or an appropriate canister incorporating a high efficiency filter, shall be used.

### 1.8.6.2 Protective Clothing and Equipment

All workers shall wear safety shoes or boots, appropriate gloves to protect against the chemical to be encountered, and breathable, protective, full-body covering during spray-painting applications. Where necessary for emergencies, protective equipment such as life lines, body harnesses, or other means of personnel removal shall be used during confined-space work.

### 1.9 MEDICAL STATUS

Prior to the start of work and annually thereafter, all Contractor employees working with or around paint systems, thinners, blast media, those required to wear respiratory protective equipment, and those who will be exposed to high noise levels shall be medically evaluated for the particular type of exposure they may encounter. Medical records shall be maintained as required by 29 CFR 1910.20. The evaluation shall include:

a. a. Audiometric testing and evaluation of employees who will work in the noise environments.

b. Vision screening (employees who use full-facepiece respirators shall not wear contact lenses).

c. Medical evaluation shall include, but shall not be limited to, the following:

(1) Medical history including, but not limited to, alcohol use, with emphasis on liver, kidney, and pulmonary systems, and sensitivity to chemicals to be used on the job.

(2) General physical examination with emphasis on liver, kidney, and pulmonary system.

(3) Determination of the employee's physical and psychological ability to wear respiratory protective equipment and to perform job-related tasks.

(4) Determination of baseline values of biological indices for later comparison to changes associated with exposure to paint systems and thinners or blast media, which include: liver function tests to include SGOT, SGPT, GGPT, alkaline phosphates, bilirubin, complete urinalysis, EKG (employees over age 40), blood urea nitrogen (bun), serum creatinine, pulmonary function test, FVC, and FEV, chest x-ray (if medically indicated), blood lead and ZPP (for individuals where it is known there will be an exposure to materials containing lead), other criteria that may be deemed necessary by the Contractor's physician, and Physician's statements for individual employees that medical status would permit specific task performance.

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(5) For lead-based paint removal, the medical requirements of 29 CFR 1926.62 shall also be included.

### 1.10 CHANGE IN MEDICAL STATUS

Any employee whose medical status has changed negatively due to work related chemical and/or physical agent exposure while working with or around paint systems and thinners, blast media, or other chemicals shall be evaluated by a physician, and the Contractor shall obtain a physicians statement as described in paragraph MEDICAL STATUS prior to allowing the employee to return to those work tasks. The Contractor shall notify the Contracting Officer in writing of any negative changes in employee medical status and the results of the physicians reevaluation statement.

### 1.11 PAINT PACKAGING, DELIVERY, AND STORAGE

Paints shall be processed and packaged to ensure that within a period of one year from date of manufacture, they will not gel, liver, or thicken deleteriously, or form gas in the closed container. Paints, unless otherwise specified or permitted, shall be packaged in standard containers not larger than 5 gallons, with removable friction or lug type covers. Containers for vinyl type paints shall be lined with a coating resistant to solvents in the formulations and capable of effectively isolating the paint from contact with the metal container. Each container of paint or separately packaged component thereof shall be labeled to indicate the purchaser's order number, date of manufacture, manufacturer's batch number, quantity, color, component identification and designated name, and formula or specification number of the paint together with special labeling instructions, when specified. Paint shall be delivered to the job in unbroken containers. Paints that can be harmed by exposure to cold weather shall be stored in ventilated, heated shelters. All paints shall be stored under cover from the elements and in locations free from sparks and flames.

## PART 2 PRODUCTS

### 2.1 SPECIAL PAINT FORMULAS

Special paints shall have the composition as indicated in the formulas listed herein. Where so specified, certain components of a paint formulation shall be packaged in separate containers for mixing on the job. If not specified or otherwise prescribed, the color shall be that naturally obtained from the required pigmentation.

### 2.2 PAINT FORMULATIONS

Special paint formulas shall comply with the following:

#### 2.2.1 Formula V-766e, Vinyl-Type White (or Gray) Paint

INGREDIENTS	PERCENT BY MASS
Vinyl Resin, Type 3	5.6
Vinyl Resin, Type 4	11.6
Titanium Dioxide and (for Gray)	
Carbon Black	13.0
Diisodecyl Phthalate	2.9
Methyl Isobutyl Ketone	32.0
Toluene	34.7

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INGREDIENTS	PERCENT BY MASS
Ortho-Phosphoric Acid	0.2
	<hr/> 100.0

a. The dispersion of pigment shall be accomplished by means of pebble mills or other approved methods to produce a fineness of grind (ASTM D 1210) of not less than 7 on the Hegman scale. Grinding in steel-lined or steel-ball mills will not be permitted. No grinding aids, antissettling agents, or any other materials except those shown in the formula will be permitted. The paint shall show the proper proportions of specified materials when analyzed by chromatographic and/or spectrophotometric methods. The ortho-phosphoric acid shall be measured accurately and diluted with at least four parts of ketone to one part of acid and it shall be slowly incorporated into the finished paint with constant and thorough agitation.

b. The viscosity of the paint shall be between 60 and 90 seconds using ASTM D 1200 and a No. 4 Ford cup.

c. The white and gray paints shall be furnished in the volume ratio designated by the purchaser. The gray paint shall contain no pigments other than those specified. Enough carbon black shall be included to produce a dry paint film having a reflectance of 20-24 (ASTM E 1347). The resulting gray color will approximate Munsell color 2.5PB 5/2 identified in MD 40219.

### 2.2.2 Formula VZ-108d, Vinyl-Type Zinc-Rich Primer

INGREDIENTS	PERCENT BY WEIGHT	POUNDS	GALLONS
COMPONENT A			
Vinyl Resin, Type 3	16.6	109.2	9.65
Methyl Isobutyl Ketone	80.6	528.9	79.30
Suspending Agent E	0.7	4.6	0.28
Suspending Agent F	0.4	2.7	0.19
Methanol	0.5	3.3	0.50
Synthetic Iron Oxide (Red)	1.2	7.9	0.19
	<hr/> 100.0	<hr/> 656.6	<hr/> 90.11
COMPONENT B			
Silane B	100.0	4.1	0.47
COMPONENT C			
Zinc Dust	100.0	550.0	9.42
			<hr/> 100.00 (mixed paint)

a. The iron oxide and suspending agents shall be dispersed into the vehicle (Component A) to a fineness of grind of not less than 4 on the Hegman scale (ASTM D 1210). Grinding in steel lined containers or using steel grinding media shall not be permitted. The sole purpose of

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the iron oxide pigment is to produce a contrasting color. A red iron oxide type 3 vinyl resin vehicle paste may be used in place of dry iron oxide provided compensating adjustments are made in the additions of Type 3 resin and methyl isobutyl ketone. The finished product with zinc dust added shall produce a paint which has a red tone upon drying and a reflectance of not more than 16 (ASTM E 1347).

b. VZ 108d paint shall be supplied as a kit. Each kit shall consist of 4.5 gallons (33.1 pounds) of Component A in a 5 gallon lug closure type pail, 27.5 pounds of zinc dust (Component C) packaged in a 1 gallon plastic pail, and 3 fluid ounces of silane (Component B) packaged in a glass bottle of suitable size having a polyethylene lined cap. The bottle of silane shall be placed on the zinc dust in the gallon pail. In addition to standard labeling requirements, each container of each component shall be properly identified as to component type and each container label of Component A shall carry the following: MIXING AND APPLICATION INSTRUCTIONS: WARNING THIS PAINT WILL NOT ADHERE TO STEEL SURFACES UNLESS COMPONENT B IS ADDED. Remove the 3 ounces of bottled Component B (silane) from the Component C (zinc dust) container and add to the base paint (Component A) with thorough stirring. Then sift the zinc dust into the base paint while it is being vigorously agitated with a power driven stirrer and continue the stirring until the zinc dust has been dispersed. The mixed paint shall at some point be strained through a 30 60 mesh screen to prevent zinc dust slugs from reaching the spray gun nozzle. The paint shall be stirred continuously during application at a rate that will prevent settling. If spraying is interrupted for longer than 15 minutes, the entire length of the hose shall be whipped vigorously to redisperse the zinc. If the spraying is to be interrupted for more than 1 hour, the hose shall be emptied by blowing the paint back into the paint pot. Thinning will not normally be required when ambient temperatures are below about 80 degrees F, but when the ambient and steel temperatures are higher, methyl isoamyl ketone (MIAK) or methyl isobutyl ketone (MIBK) should be used. If paint is kept covered at all times, its pot life will be about 8 days.

### 2.2.3 Formula P-38, Aluminum Phenolic Finish Coat

This material shall be a ready-mixed aluminum paint. The pigment shall be leafing aluminum powder or paste conforming to the requirements of ASTM D 962 Types I or II, Class B, Medium. The vehicle shall be a phenolic resin varnish of 33-gallon oil length. The resin portion of the vehicle shall be a dry granular phenol-formaldehyde resin made from aliphatic para-substituted phenols with substituting groups containing four to eight carbon atoms. The oil portion of the vehicle shall consist of not less than 80% tung oil conforming to ASTM D 12 and the remainder shall be alkali refined linseed oil. The vehicle shall not contain rosin derivatives. Paint solvents shall consist of aliphatic and aromatic hydrocarbons as necessary. The paint shall meet the requirements of paragraphs Quantitative Requirements and Water Resistance.

#### 2.2.3.1 Quantitative Requirements

The paint shall have the following properties.

<u>Characteristics</u>	<u>Requirement (minimum/maximum)</u>
Pigment, percent by weight of paint	13 / --
Volatile, percent by weight of paint, ASTM D 2369	-- / 45

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Nonvolatile vehicle, percent by weight of paint	42 / --
Viscosity, seconds, ASTM D 1200	35 / 45
Flash point, Degrees F (C), ASTM D 4206	86 (30) / --
Leafing, percent	50 / --
Density, pounds per gallon, ASTM D 1475	8 / --
Dry, set-to-touch, hours, ASTM D 1640	0.5 / 2
Dry, to recoat, hours, ASTM D 1640	-- / 16

### 2.2.3.2 Water Resistance

Prepare a test panel by spray applying two coats of paint to a 3 by 6 inch solvent cleaned matte-finish steel test plate. Each coat shall have a dry film thickness of approximately 0.8 mils. Allow 24 hours dry time between coats. Air dry the prepared panel 72 hours and immerse in distilled water at 73 +/- 2F for 72 hours in accordance with ASTM D 1308. The test paint shall exhibit no wrinkling or blistering immediately upon removal of the panel from the water. The paint shall be no more than slightly affected when examined two hours after removal and after 24 hours shall show no more than a slight visible whitening or dulling in comparison to the unexposed film.

## 2.3 INGREDIENTS FOR SPECIAL PAINT FORMULAS

The following ingredient materials and thinners apply only to those special paints whose formulas are shown above in detail.

### 2.3.1 Pigments and Suspending Agents

#### 2.3.1.1 Carbon Black

Carbon black shall conform to ASTM D 561, Type I or II.

#### 2.3.1.2 Zinc Dust

Zinc dust pigment shall conform to ASTM D 520, Type II.

#### 2.3.1.3 Iron Oxide

Iron oxide, (Dry) synthetic (red), shall conform to ASTM D 3721. In addition, the pigment shall have a maximum oil absorption of 24 and a specific gravity of 4.90 to 5.20 when tested in accordance with ASTM D 281 and ASTM D 153, Method A, respectively. When the pigment is dispersed into specified vinyl paint formulation, the paint shall have colors approximating Munsell colors 7.5R 4/8 (light color) and 7.5R 3/6 (dark color) identified in MD 40219, and shall show no evidence of incompatibility or reaction between pigment and other components after 6 months storage.

#### 2.3.1.4 Titanium Dioxide

Titanium dioxide in vinyl paint Formula V 766e shall be one of the following: Kronos 2160 or 2101, Kronos, Inc.; Ti Pure 960, E.I. Dupont DeNemours and Co., Inc.; Unitane OR 650, Kermira, Inc.

#### 2.3.1.5 Suspending Agent E

Suspending Agent E shall be a light cream colored finely divided powder having a specific gravity of 2 to 2.3. It shall be an organic derivative of magnesium aluminum silicate mineral capable of minimizing the tendency

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of zinc dust to settle hard without increasing the viscosity of the paint appreciably. Bentone 14, produced by Rheox, Inc., has these properties.

### 2.3.1.6 Suspending Agent F

Suspending Agent F shall be a light cream colored finely divided powder having a specific gravity of approximately 1.70. It shall be an organic derivative of a special montmorillonite. Bentone 27, produced by Rheox, Inc., has these properties.

### 2.3.2 Resins, Plasticizer, and Catalyst

#### 2.3.2.1 Diisodecyl Phthalate

Diisodecyl Phthalate shall have a purity of not less than 99.0 percent, shall contain not more than 0.1 percent water, and shall have an acid number (ASTM D 1045) of not more than 0.10.

#### 2.3.2.2 Vinyl Resin, Type 3

Vinyl resin, Type 3, shall be a vinyl chloride-acetate copolymer of medium average molecular weight produced by a solution polymerization process and shall contain 85 to 88 percent vinyl chloride and 12 to 15 percent vinyl acetate by weight. The resin shall have film-forming properties and shall, in specified formulations, produce results equal to Vinylite resin VYHH, as manufactured by the Union Carbide Corporation.

#### 2.3.2.3 Vinyl Resin, Type 4

Vinyl resin, Type 4, shall be a copolymer of the vinyl chloride-acetate type produced by a solution polymerization process, shall contain (by weight) 1 percent interpolymerized dibasic acid, 84 to 87 percent vinyl chloride, and 12 to 15 percent vinyl acetate. The resin shall have film-forming properties and shall, in the specified formulations, produce results equal to Vinylite resin VMCH, as manufactured by the Union Carbide Corporation.

#### 2.3.2.4 Ortho-phosphoric Acid

Ortho-phosphoric acid shall be a chemically pure 85-percent grade.

### 2.3.3 Solvent and Thinners

#### 2.3.3.1 Methanol

Methanol (methyl alcohol) shall conform to ASTM D 1152.

#### 2.3.3.2 Methyl Isobutyl Ketone

Methyl isobutyl ketone (MIBK) shall conform to ASTM D 1153.

#### 2.3.3.3 Toluene

Toluene shall conform to ASTM D 841.

### 2.3.4 Silane B

Silane B for Formula VZ-108d shall be N-beta-(aminoethyl)-gamma-aminopropyltrimethoxy silane. Silane A 1120, produced by the Union Carbide

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Corporation, and Silane Z 6020, produced by Dow Chemical Company, are products of this type.

### 2.4 TESTING

#### 2.4.1 Chromatographic Analysis

Solvents in vinyl and epoxy paints and thinners shall be subject to analysis by programmed temperature gas chromatographic methods and/or spectrophotometric methods, employing the same techniques that give reproducible results on prepared control samples known to meet the specifications. If the solvent being analyzed is of the type consisting primarily of a single chemical compound or a mixture of two or more such solvents, interpretation of the test results shall take cognizance of the degree of purity of the individual solvents as commercially produced for the paint industry.

#### 2.4.2 Vinyl Paints

Vinyl paints shall be subject to the following adhesion test. When V 766 formulation is tested, 5 to 7 mils (dry) shall be spray applied to mild steel panels. The steel panels shall be essentially free of oil or other contaminants that may interfere with coating adhesion. The test panels shall be dry blast cleaned to a White Metal grade which shall be in compliance with SSPC SP 5. The surface shall have an angular profile of 2.0 to 2.5 mils as measured by ASTM D 4417, Method C. When VZ 108 is tested, the coating shall be mixed in its proper proportions and then spray applied to a dry film thickness of 1.5 to 2.5 mils above the blast profile.

The VZ 108 shall be top coated with a V 766 known to pass this test. In all cases, the complete system shall have a total dry film thickness of 5 to 7 mils above the blast profile. After being air dried for 2 hours at room temperature, the panel shall be dried in a vertical position for 16 hours at 120 degrees F. After cooling for 1 hour, the panel shall be immersed in tap water at 85 to 90 degrees F for 48 to 72 hours. Immediately upon removal, the panel shall be dried with soft cloth and examined for adhesion as follows: With a pocket knife or other suitable instrument, two parallel cuts at least 1 inch long shall be made 1/4 to 3/8 inch apart through the paint film to the steel surface. A third cut shall be made perpendicular to and passing through the end of the first two. With the tip of the knife blade, the film shall be loosened from the panel from the third cut between the parallel cuts for a distance of 1/8 to 1/4 inch. With the panel being held horizontally, the free end of the paint film shall be grasped between the thumb and forefinger and pulled vertically in an attempt to remove the film as a strip from between the first two cuts. The strip of paint film shall be removed at a rate of approximately 1/10 inch per second and shall be maintained in a vertical position during the process of removal. The adhesion is acceptable if the strip of paint breaks when pulled or if the strip elongates a minimum of 10 percent during its removal. Paints not intended to be self priming shall exhibit no delamination from the primer.

## PART 3 EXECUTION

### 3.1 CLEANING AND PREPARATION OF SURFACES TO BE PAINTED

#### 3.1.1 General Requirements

Surfaces to be painted shall be cleaned before applying paint or surface treatments. Deposits of grease or oil shall be removed in accordance with



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SSPC SP 1, prior to mechanical cleaning. Solvent cleaning shall be accomplished with mineral spirits or other low toxicity solvents having a flashpoint above 100 degrees F. Clean cloths and clean fluids shall be used to avoid leaving a thin film of greasy residue on the surfaces being cleaned. Items not to be prepared or coated shall be protected from damage by the surface preparation methods. Machinery shall be protected against entry of blast abrasive and dust into working parts. Cleaning and painting shall be so programmed that dust or other contaminants from the cleaning process do not fall on wet, newly painted surfaces, and surfaces not intended to be painted shall be suitably protected from the effects of cleaning and painting operations. Welding of, or in the vicinity of, previously painted surfaces shall be conducted in a manner to prevent weld spatter from striking the paint and to otherwise reduce coating damage to a minimum; paint damaged by welding operations shall be restored to original condition. Surfaces to be painted that will be inaccessible after construction, erection, or installation operations are completed shall be painted before they become inaccessible.

### 3.1.2 Ferrous Surfaces Subject to Severe Exposure

Ferrous surfaces subject to extended periods of immersion or as otherwise required shall be dry blast cleaned to SSPC SP 5. The blast profile, unless otherwise specified, shall be 1.5 to 2.5 mils as measured by ASTM D 4417, Method C. Appropriate abrasive blast media shall be used to produce the desired surface profile and to give an angular anchor tooth pattern. If recycled blast media is used, an appropriate particle size distribution shall be maintained so that the specified profile is consistently obtained.

Steel shot or other abrasives that do not produce an angular profile shall not be used. Weld spatter not dislodged by blasting shall be removed with impact or grinding tools and the areas reblasted prior to painting. Surfaces shall be dry at the time of blasting. Blast cleaning to SSPC SP 5 shall be done in the field and, unless otherwise specifically authorized, after final erection. Within 8 hours after cleaning, prior to the deposition of any detectable moisture, contaminants, or corrosion, all ferrous surfaces blast cleaned to SSPC SP 5 shall be cleaned of dust and abrasive particles by brush, vacuum cleaner, and/or blown down with clean, dry, compressed air, and given the first coat of paint. Upon written request by the Contractor, the Contracting Officer may authorize mill or shop cleaning of assembled or partially assembled components specified to receive one of the vinyl type paint systems employing the epoxy zinc rich primer. The surfaces, if shop blasted, shall be shop coated with the first and second coats of the specified paint system except that the epoxy zinc rich primed surfaces shall receive an extra single spray coat of the zinc primer at the time field painting is started, as specified in the paint system instructions. The shop coating shall be maintained in good condition by cleaning and touching up of areas damaged during the construction period. If pinpoint or general rusting appears, surfaces shall be reblasted and repainted at no added cost to the Government. Prior to the field application of subsequent coats, soiled areas of the shop coating shall be thoroughly cleaned and all welds or other unpainted or damaged areas shall be cleaned and coated in a manner to make them equivalent to adjacent, undamaged paint surfaces.

## 3.2 PAINT APPLICATION

### 3.2.1 General

The finished coating shall be free from holidays, pinholes, bubbles, runs, drops, ridges, waves, laps, excessive or unsightly brush marks, and

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variations in color, texture, and gloss. Application of initial or subsequent coatings shall not commence until the Contracting Officer has verified that atmospheric conditions and the surfaces to be coated are satisfactory. Each paint coat shall be applied in a manner that will produce an even, continuous film of uniform thickness. Edges, corners, crevices, seams, joints, welds, rivets, corrosion pits, and other surface irregularities shall receive special attention to ensure that they receive an adequate thickness of paint. Spray equipment shall be equipped with traps and separators and where appropriate, mechanical agitators, pressure gauges, pressure regulators, and screens or filters. Air caps, nozzles, and needles shall be as recommended by the spray equipment manufacturer for the material being applied. Airless type spray equipment may be used only on broad, flat, or otherwise simply configured surfaces, except that it may be employed for general painting if the spray gun is equipped with dual or adjustable tips of proper types and orifice sizes. Airless type equipment shall not be used for the application of vinyl paints.

### 3.2.2 Mixing and Thinning

Paints shall be thoroughly mixed, strained where necessary, and kept at a uniform composition and consistency during application. Paste or dry powder pigments specified to be added at the time of use shall, with the aid of powered stirrers, be incorporated into the vehicle or base paint in a manner that will produce a smooth, homogeneous mixture free of lumps and dry particles. Where necessary to suit conditions of the surface temperature, weather, and method of application, the paint may be thinned immediately prior to use. Thinning shall generally be limited to the addition of not more than 1 pint per gallon of the proper thinner; this general limitation shall not apply when more specific thinning instructions are provided. Paint that has been stored at low temperature, shall be brought up to at least 70 degrees F before being mixed and thinned, and its temperature in the spray tank or other working container shall not fall below 60 degrees F during the application. Paint that has deteriorated in any manner to a degree that it cannot be restored to essentially its original condition by customary field mixing methods shall not be used and shall be removed from the project site. Paint and thinner that is more than 1 year old shall be resampled and resubmitted for testing to determine its suitability for application.

### 3.2.3 Atmospheric and Surface Conditions

Paint shall be applied only to surfaces that are above the dew point temperature and that are completely free of moisture as determined by sight and touch. Paint shall not be applied to surfaces upon which there is detectable frost or ice. Except as otherwise specified, the temperature of the surfaces to be painted and of air in contact therewith shall be not less than 45 degrees F during paint application nor shall paint be applied if the surfaces can be expected to drop to 32 degrees F or lower before the film has dried to a reasonably firm condition. During periods of inclement weather, painting may be continued by enclosing the surfaces and applying artificial heat, provided the minimum temperatures and surface dryness requirements prescribed previously are maintained. Paint shall not be applied to surfaces heated by direct sunlight or other sources to temperatures that will cause detrimental blistering, pinholing, or porosity of the film.

### 3.2.4 Time Between Surface Preparation and Painting

Surfaces that have been cleaned and/or otherwise prepared for painting

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shall be primed as soon as practicable after such preparation has been completed but, in any event, prior to any deterioration of the prepared surface.

### 3.2.5 Method of Paint Application

Unless otherwise specified, paint shall be applied by brush or spray to ferrous and nonferrous metal surfaces. Special attention shall be directed toward ensuring adequate coverage of edges, corners, crevices, pits, rivets, bolts, welds, and similar surface irregularities. Other methods of application to metal surfaces shall be subject to the specific approval of the Contracting Officer. Paint on plaster, concrete, or other nonmetallic surfaces shall be applied by brush, roller, and/or spray.

### 3.2.6 Coverage and Film Thickness

Film thickness or spreading rates shall be as specified hereinafter. Where no spreading rate is specified, the paint shall be applied at a rate normal for the type of material being used. In any event, the combined coats of a specified paint system shall completely hide base surface and the finish coats shall completely hide undercoats of dissimilar color.

#### 3.2.6.1 Measurement on Ferrous Metal

Where dry film thickness requirements are specified for coatings on ferrous surfaces, measurements shall be made with one of the thickness gages listed below. They shall be calibrated and used in accordance with ASTM D 1186. They shall be calibrated using plastic shims with metal practically identical in composition and surface preparation to that being coated, and of substantially the same thickness (except that for measurements on metal thicker than 1/4 inch, the instrument may be calibrated on metal with a minimum thickness of 1/4 inch). Frequency of measurements shall be as recommended for field measurements by ASTM D 1186 and reported as the mean for each spot determination. The instruments shall be calibrated or calibration verified prior to, during, and after each use. Authorized thickness gages:

- a. Mikrotest, Elektro Physik, Inc.
- b. Inspector Gage, Elcometer Instruments, Ltd.
- c. Positest, Defelsko Corporation
- d. Minitector, Elcometer Instruments, Ltd.
- e. Positector 2000, Defelsko Corporation

### 3.2.7 Progress of Painting Work

Where field painting on any type of surface has commenced, the complete painting operation, including priming and finishing coats, on that portion of the work shall be completed as soon as practicable, without prolonged delays. Sufficient time shall elapse between successive coats to permit them to dry properly for recoating, and this period shall be modified as necessary to suit adverse weather conditions. Paint shall be considered dry for recoating when it feels firm, does not deform or feel sticky under moderate pressure of the finger, and the application of another coat of paint does not cause film irregularities such as lifting or loss of adhesion of the undercoat. All coats of all painted surfaces shall be

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unscarred and completely integral at the time of application of succeeding coats. At the time of application of each successive coat, undercoats shall be cleaned of dust, grease, overspray, or foreign matter by means of airblast, solvent cleaning, or other suitable means. Cement and mortar deposits on painted steel surfaces, not satisfactorily removed by ordinary cleaning methods, shall be brush-off blast cleaned and completely repainted as required. Undercoats of high gloss shall, if necessary for establishment of good adhesion, be scuff sanded, solvent wiped, or otherwise treated prior to application of a succeeding coat. Field coats on metal shall be applied after erection except as otherwise specified and except for surfaces to be painted that will become inaccessible after erection.

### 3.2.8 Contacting Surfaces

When riveted or ordinary bolted contact is to exist between surfaces of ferrous or other metal parts of substantially similar chemical composition, such surfaces will not be required to be painted, but any resulting crevices shall subsequently be filled or sealed with paint. Contacting metal surfaces formed by high-strength bolts in friction-type connections shall not be painted. Where a nonmetal surface is to be in riveted or bolted contact with a metal surface, the contacting surfaces of the metal shall be cleaned and given three coats of the specified primer. Unless otherwise specified, corrosion-resisting metal surfaces, including cladding therewith, shall not be painted.

### 3.2.9 Drying Time Prior to Immersion

Minimum drying periods after final coat prior to immersion shall be: epoxy systems at least 5 days, vinyl-type paint systems at least 3 days, and cold-applied coal tar systems at least 7 days. Minimum drying periods shall be increased twofold if the drying temperature is below 65 degrees F and/or if the immersion exposure involves considerable abrasion.

### 3.2.10 Protection of Painted Surfaces

Where shelter and/or heat are provided for painted surfaces during inclement weather, such protective measures shall be maintained until the paint film has dried and discontinuance of the measures is authorized. Items that have been painted shall not be handled, worked on, or otherwise disturbed until the paint coat is fully dry and hard. All metalwork coated in the shop or field prior to final erection shall be stored out of contact with the ground in a manner and location that will minimize the formation of water-holding pockets; soiling, contamination, and deterioration of the paint film, and damaged areas of paint on such metalwork shall be cleaned and touched up without delay. The first field coat of paint shall be applied within a reasonable period of time after the shop coat and in any event before weathering of the shop coat becomes extensive.

### 3.2.11 Vinyl Paints

#### 3.2.11.1 General

Vinyl paints shall be spray applied, except that areas inaccessible to spraying shall be brushed. All of the vinyl paints require thinning for spray application except the zinc-rich vinyl paint (Formula VZ 108d) which will normally require thinning only under certain weather conditions. Thinners for vinyl paints shall be as follows:

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### APPROXIMATE AMBIENT AIR TEMPERATURE (Degrees F)

Below 50	MEK
50 - 70	MIBK
Above 70	MIAC

The amount of thinner shall be varied to provide a wet spray and avoid deposition of particles that are semidry when they strike the surface. Vinyl paints shall not be applied when the temperature of the ambient air receiving surfaces is less than 35 degrees F nor when the receiving surfaces are higher than 125 degrees F. Each spray coat of vinyl paint shall consist of a preliminary extra spray pass on edges, corners, interior angles, pits, seams, crevices, junctions of joining members, rivets, weld lines, and similar surface irregularities followed by an overall double spray coat. A double spray coat of vinyl type paint shall consist of applying paint to a working area of not less than several hundred square feet in a single, half lapped pass, followed after drying to at least a near tack free condition by another spray pass applied at the same coverage rate and where practicable at right angles to the first. Rivets, bolts, and similar surface projections shall receive sprayed paint from every direction to ensure complete coverage of all faces. Pits, cracks, and crevices shall be filled with paint insofar as practicable, but in any event, all pit surfaces shall be thoroughly covered and all cracks and crevices shall be sealed off against the entrance of moisture. Fluid and atomization pressures shall be kept as low as practicable consistent with good spraying results. Unless otherwise specified, not more than 2.0 mils, average dry film thickness, of vinyl paint shall be applied per double spray coat. Except where otherwise indicated, an undercoat of the vinyl type paint may receive the next coat any time after the undercoat is tack free and firm to the touch, provided that no speedup or delay in the recoating schedule shall cause film defects such as sags, runs, air bubbles, air craters, or poor intercoat adhesion. Neither the prime coat nor any other coat shall be walked upon or be subjected to any other abrading action until it has hardened sufficiently to resist mechanical damage.

#### 3.2.11.2 Vinyl Zinc-Rich Primer

Primer shall be field mixed combining components A, B, and C. Mixing shall be in accordance with label instructions. After mixing, the paint shall be kept covered at all times to avoid contamination and shall be applied within 8 days after it is mixed. When the ambient and/or steel temperature is below about 80 degrees F, the paint will not normally require thinning; however, the paint shall at all times contain sufficient volatiles (thinners) to permit it to be satisfactorily atomized and to provide a wet spray and to avoid deposition of particles that are semidry when they reach the surface. The paint shall be stirred continuously during application at a rate that will prevent the zinc dust from settling. When spraying is resumed after any interruption of longer than 15 minutes, the entire length of the material hose shall be whipped vigorously until any settled zinc is redispersed. Long periods of permitting the paint to remain stagnant in the hose shall be avoided by emptying the hoses whenever the painting operation is to be suspended for more than 1 hour. The material (paint) hoses shall be kept as short as practicable, preferably not more than 50 feet in length. Equipment used for spraying this zinc primer shall not be used for spraying other vinyl type paints without first being thoroughly cleaned, since many of the other paints will not tolerate zinc

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contamination; no type of hot spray shall be used. An average dry film thickness of up to 2.5 mils may be applied in one double spray coat. Unless specifically authorized, not more than 8 days shall elapse after application of a VZ 108d zinc rich coat before it receives a succeeding coat.

### 3.2.11.3 Vinyl Paints

Vinyl Paints (Formulas V 102e, V 103c, V 106d, and V 766e) are ready mixed paints designed to be spray applied over a wide range of ambient temperatures by field thinning with the proper type and amount of thinner. For spray application, they shall be thinned as necessary up to approximately 25 percent (1 quart per gallon of base paint) with the appropriate thinner; when ambient and steel temperatures are above normal, up to 40 percent thinning may be necessary for satisfactory application.

### 3.3 PAINT SYSTEMS APPLICATION

The required paint systems and the surfaces to which they shall be applied are shown in this paragraph, and/or in the drawings. Supplementary information follows.

#### 3.3.1 Fabricated and Assembled Items

Items that have been fabricated and/or assembled into essentially their final form and that are customarily cleaned and painted in accordance with the manufacturer's standard practice will be exempted from equivalent surface preparation and painting requirements described herein, provided that:

- a. Surfaces primed (only) in accordance with such standard practices are compatible with specified field applied finish coats.
- b. Surfaces that have been primed and finish painted in accordance with the manufacturer's standard practice are of acceptable color and are capable of being satisfactorily touched up in the field.
- c. Items expressly designated herein to be cleaned and painted in a specified manner are not coated in accordance with the manufacturer's standard practice if different from that specified herein.

#### 3.3.2 Surface Preparation

The method of surface preparation and pretreatment shown in the tabulation of paint systems is for identification purposes only. Cleaning and pretreatment of surfaces prior to painting shall be accomplished in accordance with detailed requirements previously described.

#### 3.3.3 System No. 5-E-Z

Paint shall be spray applied to an average minimum dry film thickness of 7.0 mils for the completed system, and the thickness at any point shall not be less than 5.5 mils. The dry film thickness of the zinc rich primer shall be approximately 2.5 mils. The specified film thickness shall be attained in any event, and any extra coats needed to attain the specified thickness shall be applied at no additional cost to the Government. Attaining the specified film thickness by applying fewer than the prescribed number of coats or spray passes will be acceptable provided heavier applications do not cause an increase in pinholes, bubbles,

## Locks 2 & 5 Stoplog Slot Installation

blisters, or voids in the dried film and also provided that not more than 2.0 mils (dry film thickness) per double spray coat nor more than 1.0 mil per single spray pass of nonzinc paint shall be applied at one time.

### 3.3.4 Protection of Nonpainted Items and Cleanup

Walls, equipment, fixtures and all other items in the vicinity of the surfaces being painted shall be maintained free from damage by paint or painting activities. Paint spillage and painting activity damage shall be promptly repaired.

### 3.4 PAINTING SCHEDULES

#### SYSTEM NO. 5-E-Z

Items or surfaces to be coated:

All immersed or partially immersed steel surfaces, including:

Wall Armor  
Vertical Corner Protection  
Horizontal Edge Protection  
Ladder  
Anchor Bars, Sleeve Nuts, Gudgeon Links, Anchorage Pins (exposed surfaces only)

Lower Miter Gate Anchorages  
Lock chamber stoplog recess insert  
Lock chamber stoplog recess covers

SURFACE PREPARATION	1st COAT	2nd COAT	3rd COAT	4th COAT
White metal blast cleaning	Vinyl zinc- rich VZ-108d (double spray coat)	Gray Vinyl V-766e (double spray coat)	White Vinyl V-766e (double spray coat)	Gray Vinyl V-766e (double spray coat)

Surfaces embedded in or in contact with concrete shall be shop primed with VZ-108d and a single coat of V-766e with touch-ups and a single finish coat of V-766e applied in the field.

All surfaces shall be abrasive blasted prior to priming. After erection, all field weld areas shall be ground smooth and spot blasted and touched up. All other damaged coating shall be spot blasted and touched up prior to the application of the remaining coats.

The following items are to be protected and coated with a removeable paraffinic coating Cosmoline or approved equivalent.

Anchor Bar threads and bores, Gudgeon Link bores and bushing surfaces, and anchorage pins.

-- End of Section --